THE RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
Railway Engineer · TRANSPORT · The Railway News
The Railway Times · Herapath's Railway Journal · RAILWAY RECORD.
RAILWAYS ILLUSTRATED · ESTABLISHED 1835 · RAILWAY OFFICIAL GAZETTE

PUBLISHED EVERY FRIDAY
AT
33, TOTHILL STREET, WESTMINSTER, LONDON, S.W.1

Telegraphic Address: "TRAZETTE PARL., LONDON"
Telephone No.: WHITEHALL 9233 (6 lines)

Annual subscription payable in advance and postage free:
British Isles and Abroad.....£2 5s. 0d.
Single Copies.....One Shilling
Registered at the General Post Office, London, as a Newspaper

VOL. 65. No. 13 FRIDAY, SEPTEMBER 25, 1936

## CONTENTS

| | PAGE |
|---|---|
| Editorials | 479 |
| Letters to the Editor | 484 |
| Publications Received | 484 |
| The Scrap Heap | 485 |
| Overseas Railway Affairs | 486 |
| New Anti-Rolling Device for Ships | 489 |
| New Mixed Traffic Locomotives, G.W.R. | 490 |
| Pulverised Fuel Plant at Crewe Works, L.M.S.R. | 492 |
| Road Transport Section | 493 |
| Railway News Section | 501 |

### Mr. Ronald Leslie

MR. RONALD LESLIE, whose portrait and biography are published on page 501 this week, in connection with his appointment as London Manager and Secretary of the Central Argentine Railway, has for the past ten years been General Manager of that railway in Buenos Aires. His retirement from the management brings to a close over 22 years' onerous and responsible work in both the administration and the Traffic Department. It has fallen to Mr. Leslie's lot to guide the destinies of the railway during a period of unprecedented difficulty, marked by heavy exchange losses, diminished receipts and the continual encroachments of road competition. Although the events of the last year or two have imposed a policy of strict economy, and consequently no large new works have been undertaken, Mr. Leslie's tenure of the management has been marked by many important developments and a considerable extension to the mileage of the line. Among the principal schemes which have been carried out, may be mentioned the completion of the Buenos Aires suburban electrification; the installation of automatic signalling on the Buenos Aires suburban section; the main line widening scheme at Maldonado junction; Villa Maria gravity classification yard, and five new branches, the largest of which—325 miles long, from Villa del Rosario to Forres—was completed in 1932. By his inflexibly just treatment and kindly consideration, Mr. Leslie has earned the sincere regard and esteem of the railway staff, whose good wishes go with him to London for every happiness and success in his new post. We have pleasure in associating ourselves with these felicitations and in welcoming him back to England.

### "Too Much Regulation"

Legislation which impedes the railways in efforts to improve and extend their services is often resented as much because it proceeds from sources held either to be prejudiced or unacquainted with the problems involved, as for its intrinsic undesirability of principle. A speaker in America, who recently referred to the obstacles placed in the way of the U.S.A. systems when they try to meet the competition of other carriers, was thinking in particular of the woes of railway shareholders when he declared that there was such a thing as too much regulation; but his remark holds good of industry in general. Limitation of facilities deprives civilisation of the benefit of its own ingenuity, and retards natural expansion in deference to economic rules that bear a diminishing relation to world requirements. So far the British railways have escaped undue intervention, and the envy in which they are held by neighbours less fortunate in this respect was manifest in the French view of the L.M.S.R. business revival to which we referred in our issue of September 11. It is to be hoped that this freedom is sufficiently appreciated for encroachments upon it to be detected and withstood, no matter how attractively disguised as "economic planning" or otherwise.

* * * *

### The Week's Traffics

A total traffic gain of £128,000 is shown by the four group companies for the past week, and this compares with one of £110,000 for the previous week. For the year to date the four companies have combined receipts of £114,305,000, an increase of £3,586,000 or 3·24 per cent., over the figure for the corresponding period of 1935. Merchandise receipts show the following advances:—L.M.S.R. £999,000, or 5·92 per cent.; L.N.E.R. £468,000, or 4·02 per cent.; and Great Western £296,000, or 4·33 per cent. Percentage increases in passenger train traffics are:—L.M.S.R. 1·84; L.N.E.R. 1·65; and Southern 1·33.

| | 38th Week | | | | Year to date | |
|---|---|---|---|---|---|---|
| | Pass., &c. | Goods, &c. | Coal, &c. | Total | Inc. or Dec. | |
| | £ | £ | £ | £ | £ | % |
| L.M.S.R. | + 39,000 | + 24,000 | − 2,000 | + 61,000 | + 1,776,000 | + 3·99 |
| L.N.E.R. | + 11,000 | + 2,000 | + 11,000 | + 24,000 | + 1,103,000 | + 3·41 |
| G.W.R. | + 11,000 | + 10,000 | + 5,000 | + 26,000 | + 463,000 | + 2·48 |
| S.R. | + 15,000 | + 4,000 | − 2,000 | + 17,000 | + 244,000 | + 1·60 |

Amongst Irish railways the increases to date are:—Belfast & County Down £2,687; Great Northern £23,900; and Great Southern £135,916.

* * * *

### A Successful L.M.S.R. Quota District

The city of Stoke-on-Trent is the centre of a district rich in traffic for the transport salesmen of the L.M.S.R. to tap, and one that challenges their resourcefulness by being well served with road facilities. How they succeed, and what they hope for from the coming year, are outlined by Mr. W. Bingham, the District Goods and Passenger Manager, in the September *Quota News*. Coronation souvenirs from the Potteries are expected to total over four million pieces, which will require distribution throughout the United Kingdom and the Empire. Stoke is also the largest producing area in the country for roofing tiles, while included in the district is an important agricultural area, every station in which has been provided by the company with cartage facilities. The North Staffordshire coalfield was so well served by the railway that the district won the all-line Quota cup for coal class traffic last year. Passenger traffic from Stoke—a city with 279,000 inhabitants—has been carefully nursed, and so have the traffic potentialities of every village and hamlet in the district, with the result that passenger receipts have

increased by £18,874 in three years. Over the same period the district has built up the value of its traffic in parcels by £21,144.

* * * *

### Overseas Railway Traffics

During the past fortnight the Central Argentine has increased its gross earnings by £57,689 in comparison with the corresponding period of 1935, and the Cordoba Central has improved to the extent of £6,930 in the same time. The Buenos Ayres Western in the two weeks has reduced its previous decrease by £194 net, but the Buenos Ayres Great Southern has added £41,304 to its previous decrease. On the Entre Rios the decrease of £3,669 a fortnight ago has now been reduced to £597, and the Argentine North Eastern has added £1,652 to its previous gain.

| | No. of Week | Weekly Traffics | Inc. or Decrease | Aggregate Traffic | Inc. or Decrease |
|---|---|---|---|---|---|
| | | £ | £ | £ | £ |
| Buenos Ayres & Pacific .. | 11th | 76,118 | + 5,008 | 790,231 | — 34 |
| Buenos Ayres Great Southern .. | 12th | 108,294 | — 20,949 | 1,230,196 | — 147,219 |
| Buenos Ayres Western .. .. | 12th | 39,235 | + 832 | 459,937 | — 19,850 |
| Central Argentine .. .. | 12th | 153,565 | + 25,820 | 1,532,530 | + 168,013 |
| Canadian Pacific .. .. | 37th | 656,200 | + 66,400 | 18,401,200 | +1,600,400 |
| Bombay, Baroda & Central India | 23rd | 192,900 | + 21,900 | 3,665,700 | + 356,950 |

The Great Western of Brazil for the 38 weeks of the current year records an aggregate advance of £2,700, or 2,328 contos.

* * * *

### Railway Savings Banks

Mr. W. J. Stevens makes an interesting reference in a letter to *The Times* of September 23 to the further evidence of the widespread increase in small savings which is afforded by the voluntary savings banks of the four group railways. These deposits, he points out, are now at a record figure, and the last published total of nearly £26 millions compares with less than 8¾ millions at the close of 1913. The figures in the published balance sheets of the four companies of the saving bank deposits at the end of each of the last two years are, in round numbers, as follow:—

| | 1935 | 1934 |
|---|---|---|
| | £ | £ |
| Great Western .. | 3,104,000 | 2,776,000 |
| L.M.S.R. .. .. | 10,712,000 | 9,486,000 |
| L.N.E.R. .. .. | 8,612,000 | 7,870,000 |
| Southern .. .. | 3,241,000 | 3,074,000 |

That these totals are by no means inconsiderable in relation to the fortunes of the railway industry as a whole, Mr. Stevens gauges by estimating that the sum of nearly 26 millions would suffice to purchase at today's market price the entire deferred capital of the London & North Eastern and Southern Railways, 40 per cent. of the ordinary capital of the London Midland & Scottish, and 25 per cent. of the ordinary capital of the Great Western.

* * * *

### A Coach or a Carriage?

It is common knowledge that the British compartment type passenger vehicle on railways is a relic of stage-coach days, and is derived from the early Liverpool and Manchester carriages, which consisted of three coach-like bodies on one frame. In the Victoria and Albert Museum, there is a fine early example of the European sedan chair, which once belonged to the grand-ducal family of Tuscany. It has side doors, containing drop lights which can be raised or lowered by the familiar strap. Embroidered slings are fitted on each side by way of arm-rests, as in the majority of first class railway compartments. There are two quarter lights, one on each side, and these are of the three-cornered type common in early railway practice. This sedan chair, containing as it does features which afterwards came to typify railway vehicles, has in its turn a greater affinity to early coach construction than to the primitive litter. The coach, as opposed to the carriage or chariot, is of Hungarian origin; its name is probably derived from that of Kocs, a place in Hungary, where the first primitive road coaches are supposed to have been built during the fifteenth century. Glazed windows, and doors with drop-lights, did not become general until about 1650. In view of this, the word coach is the correct name for a railway passenger vehicle built on the compartment system, but the word carriage is not, having been derived from the Latin *carruca*, meaning a kind of covered passenger wagon used by the Romans for long journeys. If we use this philological argument, we find that the modern road motorcoach and the open American railway coach are misnamed. They are not coaches, but carriages.

* * * *

### L.M.S.R. Locomotives in the Highlands

Mr. William D. Hain, District Locomotive Superintendent at Inverness, L.M.S.R., contributed to the September issue of *On Time* some interesting notes on the exceptional features of the area under his control. Inverness, the most northerly L.M.S.R. motive power district, supplies locomotives for working some 400 miles of line, situated in country where natural conditions entail many complications in train working additional to those ordinarily associated with extremes of weather and heavy gradients. The latter are a source of trouble not only to ascending trains, for their severity is such that speed must not be allowed to develop unduly on the descent, causing much more rapid wear of brake blocks than anywhere else on the system. On the sharply curved Kyle of Lochalsh line, excessive wear of bogie flanges is a troublesome feature, while water supply, especially at the Wick end, tends to be affected by a peaty deposit in wet weather. In the face of these difficulties, the Inverness District is worked with only 94 engines, necessitating very careful diagramming at the peak periods represented by the holiday rush to the North, and home again. In 1913 the former Highland Railway had 146 locomotives, but in making the comparison it must be remembered that this total included the Highland engines stationed at Perth, which is not in the Inverness District. Balancing the extensive assistant-mileage necessary with the heavy holiday trains is a task of considerable intricacy, but at other parts of the year double-heading has now been reduced by the availability of the Class 5 standard 4-6-0's.

* * * *

### An Anti-Rolling Device

No important ship nowadays is built until model experiments have been run in one of the many experiment tanks now in existence; and when a new device is put forward the hope is often expressed that some means will be adopted of testing it not only on models but by full scale experiment. The Southern Railway is, therefore, to be congratulated on its courage in installing anti-rolling fins on the *Isle of Sark* to demonstrate the efficacy of the Denny-Brown stabiliser, which had been subjected to numerous experiments on the model of the *Isle of Sark* at the Denny tank at Dumbarton. The interest which has been aroused by this venture was evident from the keenness of those present at the trials last week as the guests of William Denny & Bros. Ltd., Brown Bros. Ltd., and the Southern Railway. The weather, although ideal for most occasions, was for once too kind, and rough seas were not available. It was possible, however, to roll the ship to considerable angles by means of the fins and then to demonstrate how quickly she could be steadied. A description of the device and the experiments carried out appears elsewhere in this issue.

### Another Ivatt Atlantic Exploit

Of all the troubles that beset locomotive working, particularly on express trains, heating of motion parts or axleboxes is probably the most common; and on a schedule demanding such continuous high speed as that of the Silver Jubilee, it is a subject for favourable comment that all but a year has passed since its inception before a casualty of this description has befallen the famous flyer. As reported on p. 504 of this issue, on September 4 the engine *Quicksilver* had to come off the train at York, on the up journey, with a hot box. The first engine available was used from there to Doncaster, where one of the Ivatt Atlantics was requisitioned. It is only a few weeks ago that we gave publicity in these columns to the extraordinary feat of haulage performed in an emergency by one of these locomotives with a train of 585 tons; the Silver Jubilee failure, in its turn, provided the opportunity for a feat of speed far in excess of anything that could have been envisaged when these engines were built, the journey of 156 miles from Doncaster to King's Cross being completed at a start-to-stop average of 67·3 m.p.h. And this with a locomotive whose active service has already extended to 26 years, and whose design, apart from superheating, is eight years older still, let alone the fact of its being suddenly called upon, without notice or preparation, to undertake so distinguished a duty.

* * * *

### An Emergency G.W.R. Run

That such feats of speed on the part of veteran locomotives are not confined to the L.N.E.R. is proved by a precisely similar happening to the Bristolian of the Great Western Railway, during the past summer, when the "King" class 4-6-0 working the down train ran hot and had to be taken off the train at Reading. The Reading station pilot was 2-cylinder 4-6-0 No. 2937, *Clevedor Court*, of a design which also originated in 1902, though actually the "Courts," which were the last batch of engines of this type to be built, were turned out of Swindon works in the year 1911; and to this locomotive the driver transferred. Signal delays were experienced in the earlier stages of the run, but after that the driver worked up to 83½ m.p.h. on the faint ascent from Didcot to Swindon, and attained 90 down Dauntsey bank. Over part of the course between Didcot and Swindon the times tied with those of the record down run made by *Manorbier Castle*, a considerably more powerful four-cylinder locomotive, with the 5 p.m. express from Paddington on June 6, 1932. Despite a number of signal and other checks, and the usual slowing through Bath, on this occasion *Clevedon Court* made the run of 82·3 miles from Reading to Bristol in 72 min. 28 sec., or 69 min. net, the latter time giving a start-to-stop average of 71·6 m.p.h.

* * * *

### An Unfastened Door

On page 505 will be found a summary of Major Wilson's report on the peculiar accident of May 29 near Willesden Junction, L.M.S.R., when a door on a horsebox flew open and struck a passenger train travelling at speed in the opposite direction, severely damaging a first class compartment. A passenger occupying the corner seat facing on that side was killed. Notwithstanding that several men concerned declared they saw nothing amiss with the vehicle in the course of shunting and examining it prior to the train leaving Willesden, and the belief of three of them that the securing cotter of the door bolting gear was put in place, Major Wilson is forced by all the circumstances to the conclusion that this could never have been so, and that inattention to details resulted in the omission passing unnoticed. It is interesting to learn that a number of tests made to see whether oscillation and shock would make a partly inserted cotter come out, all had the contrary effect. Considering the enormous number of doors of all kinds that must be unfastened and fastened daily, accidents attributable to negligence or mistake in this connection are most rare. This one will, we hope, have emphasised the necessity for carefully examining fastenings in future.

* * * *

### French Cab Signalling Developments

Cab signalling is the subject of considerable investigation and discussion on the part of French railway administrations and State authorities, a result no doubt to some extent of the criticisms of existing apparatus which followed the Lagny disaster. No decisions at all approaching finality have yet been announced, but it would seem that the various inductive systems, intermittent and continuous, are being examined and tried, to test their suitability for French operating conditions. The wide use of such apparatus in Germany, and its adoption in Switzerland, and on some sections of line in Italy, may have their effect in influencing the decisions to be taken in France before long. It is of interest to note that the Nord has, from designs due to Monsieur Ledard of the Locomotive Department, developed its ramp contact apparatus to provide "clear," "caution" and "stop" indications in connection with three-aspect light signals, comprising whistle warnings, shrill and deep toned, on the engine, with permissive features which check the correct action of the driver on entering a blocked section under caution, and also record how far he travels under the "stop and proceed" rules. Any disregard of automatic or absolute stop signals is also printed on the Flaman chart. No waiting time is imposed on the driver before passing an automatic or semi-automatic signal at "stop," nor, except over facing points, any speed limit. The responsibility for driving with proper care is placed on him, and the guard's written permissive order has been abolished.

* * * *

### Pooling Locomotive Repair Facilities

A report issued by the American Federal Co-ordinator of Transportation deals with economies which might reasonably be expected to result from a complete unified programme of repair shop facilities taking into account the difficulties that are likely to arise should the repair of locomotives owned by one railway be carried out in the shops of another. Locomotive heavy repairs are shown to be the most complicated in the sphere of rolling stock maintenance, and the layout and arrangement of repair facilities considered most economical for one type of engine and for certain details of design are by no means universally applicable. Every railway has established a certain degree of standardisation in the design and details of locomotives, to suit its own needs, and until some general standardisation is accomplished this will still further complicate the pooling of repair facilities. During the period of Federal control, 1918-1920, some 3,000 locomotives were sent to shops other than those of the owning company for major repairs, and it was then demonstrated beyond question that delays and duplication of investment in parts, due to differences in design and standards of maintenance, must be expected so long as so many different standards exist. There must, it is stated, be real national standardisation in the matter of locomotive design, shop practice, limits of wear, and policy of renewals, before full advantage can be taken of joint use of heavy repair shops. The mere consolidation or joint use of existing major repair shops, without installing new machinery, can, it is remarked, result only in comparatively small savings.

## Alsace-Lorraine Railways

THE railways of Alsace-Lorraine, though owned by the French Government, are operated, with the Guillaume—Luxembourg line of 207 km. and 17 km. of railways belonging to other systems, from headquarters at Strasbourg, by an administration separate from that of the State Railways. As the report for 1935 shows, the length in operation at the end of that year was 2,297 km., as compared with 2,325 km. at the end of 1934. Under the Franco-German agreement of March 31, 1935, 35 km. of lines in Saar territory, previously worked by the Alsace-Lorraine administration, have been ceded to Germany. On the other hand, the Alsace-Lorraine administration has resumed the working of 1 km. of line situate between Sarreguemines and Saarbrucken previously worked by the Saar administration, and it has opened nearly 6 miles of new line. A local line of 20 km. from Colmar to Lapoutroie is also worked by the Alsace-Lorraine administration, which includes in its system 1,211 km. of railways built by the German administration between 1872 and 1917. Earnings in 1935 were again affected by the economic crisis and by competition from other modes of transport, but the main cause of the reduction of 13·45 per cent. in traffic receipts from fr. 755,794,040 to fr. 654,105,815 was the changed situation in the Saar. Although the transport of minerals from France to the Saar has remained much the same as it was before the return of the Saar to Germany on March 1, 1935, traffic from the Saar to France has considerably decreased, especially the coal and coke consignments which gave long leads. Co-ordination between rail and waterway is making progress, and the preliminaries of co-operation with the road interests are being worked out, in spite of the difficulty in reconciling the differing points of view. Rail-air co-ordination, prescribed by the law of October 30, 1935, is only in its initial stage.

Passenger receipts show a diminution of 4·12 per cent. partly because of road competition, which, though checked by co-ordination decrees, still makes itself felt. In *grande vitesse* receipts, other than passenger, the receipts were lower by only 0·70 per cent., although the tonnage was 12·9 per cent. less. Milk traffic fell off by 35·5 per cent., chiefly on account of the loss of the Saar market, but there was considerable improvement in *finances*, carriages, and agricultural parcels. *Petite vitesse* receipts decreased by 16·29 per cent. in comparison with 1934. In coal and coke alone there was a diminution of nearly 19 per cent. in quantity, from 15,074,109 tons to 12,670,759 tons, mainly because of the loss of the long-distance Saar traffic. Cereals and other agricultural traffics were appreciably lower, as were also *produits metallurgiques*. The only items showing improvement were minerals carried for short distances at very low rates. Some operating results are compared in the accompanying table:—

| | 1935 | 1934 |
|---|---|---|
| Passengers .. .. | 55,372,603 | 58,129,601 |
| Tons (p.v.) .. .. | 36,677,004 | 40,848,165 |
| Average p.v. haul, km. .. | 72·687 | 78·604 |
| Train-kilometres .. .. | 26,492,366 | 27,336,882 |
| Operating ratio, per cent. | 108·34 | 99·75 |
| | Francs | Francs |
| Passenger receipts .. | 132,796,093 | 138,502,060 |
| *Grande vitesse* .. .. | 28,968,605 | 29,175,191 |
| *Petite vitesse* .. .. | 492,341,117 | 588,116,789 |
| Gross receipts .. .. | 674,372,875 | 781,102,788 |
| Expenses .. .. .. | 730,595,304 | 779,145,961 |
| Profit (+) or loss (−) .. | −56,222,429 | +1,956,827 |

Of the reduction of fr. 48,550,657 in expenses, fr. 19,472,600 was in staff, and fr. 13,110,396 in other expenses. There was also a *prélèvement* under the law of July, 1935, which gave a further reduction of fr. 15,967,661. The number of staff employed was reduced during the year by 1,802, making the total number 17,143 less than in 1921. The administration has continued the system of economies first introduced in 1921 which has resulted in greater efficiency with fewer staff. Capital charges to the extent of fr. 193,057,104 have had to be met in 1935, and the final result of the year's working is a deficit of fr. 258,823,969 chargeable to the Common Fund, as against fr. 203,426,901 in 1934. New works in hand include the doubling of the line between Strasbourg and Molsheim (12 miles), the enlargement of Strasbourg, Thionville, Mulhouse-Ville, Réding, Forbach, and Luxembourg stations, signalling improvements, abolition of level crossing, &c. Doublings of 8 km. of line on the Sélestat—Saverne section, and of 18½ km. on the Steinbourg—Schweighausen line were completed and brought into use on May 14, 1935. Two Bugatti railcars and 20 containers were brought into service during the year. Railcars ran 1,460,957 km. in 1935, compared with 406,438 in 1934.

* * * *

## The Conveyance of Bananas by Railway

FOR many years the British railway companies have rendered valuable service in the conveyance of fruit and vegetable traffic. It is very doubtful, for example, whether the popularity of bananas with the British public would have reached anything like its present level, had it not been for the extensive facilities provided by the railways for the transport of the fruit after its arrival at the ports in Great Britain. The Board of Trade statistics reveal that the annual consumption of bananas in this country has increased from 13½ million bunches to over 20 million in the last eight years. The temperature in ships conveying bananas is controlled very closely, and on taking charge of the cargoes at the ports of Avonmouth, Bristol, Garston, Liverpool, London, or Southampton, the railways exercise similar care to prevent deterioration during transport to city depots and markets. Electric elevators, belt conveyors, and other rapid unloading appliances are used to minimise time and handling in transferring the fruit from ship to truck. It is frequently possible to discharge the entire cargo of a vessel carrying 80,000 bunches within eight hours.

As the bananas are unloaded from the ship, they are immediately packed with great care into special banana vans by skilled loaders, plentiful supplies of straw or wood-wool being utilised to give additional protection. For the task of transferring the fruit from the ports to the consuming areas, the railways have provided over 3,000 of these insulated banana vans, fully equipped with vacuum brakes, while steam heating and special ventilators have been incorporated in the design of the vehicles to assist in maintaining the temperature inside the vans at a suitable level according to the season of the year and the prevailing outside temperature. In addition, the sides, ends, doors, and floors are double boarded, the intervening space being filled with non-conducting material, while the door-joints are sealed with rubber to make them air-tight when closed. The vans can be steam-heated before loading, and, after a vehicle has been detached from its train, the insulation maintains a constant temperature until the trader takes delivery of the fruit. Special trains conveying bananas are run at express speed so that delivery can be effected in the early hours of the morning following the day of unloading. Ripening rooms have been provided at a number of railway stations for the storage of the fruit. During last year over 250,000 tons of bananas were conveyed by the four main line companies.

## Washing Out Locomotive Boilers

YEAR by year, owing to ever increasing train speeds and the more exacting conditions under which steam locomotives work, the problem of maintaining the boilers in a relatively clean and efficient state has become increasingly difficult. The intensification of the service conditions, entailing more work on the locomotive boiler, ultimately leads to a greater hourly rate of evaporation, hence the production of more mud and scale, to which in ordinary conditions the boiler is very sensitive. Even under present-day conditions locomotives have to be taken out of service every week or fortnight for washing out, a state of things which sooner or later it would not be possible to tolerate. If the power developed were increased by 30 per cent., boilers would have to be washed out every five or six days, and the periods between washing out would then become so short that it would be almost impossible to operate the service. Herr Hans Richter, a chief engineer of the Deutsche Reichsbahn at Hamburg, writing in the pages of the *Bulletin of the International Railway Congress Association*, says that on that system, with its large stock of engines, over a million boiler washing operations would have to be undertaken every year under such conditions, and if this is considered in respect of direct costs alone, the sum is so large as to make it highly desirable to lengthen the washing-out intervals and to protect the boilers better. The damage caused by the insulating effect of mud and scale, in spite of frequent washing out, is well known. It is chiefly of a technical nature such as loose staybolts, premature burning of tube ends and stay heads, and erosion of tube plates on the fire side, whilst on the water side there is pitting of the metal, and modern investigation has shown that this is due not to insulation but to chemical reactions and electrolysis set up by the small bubbles of carbonic acid and oxygen with which the mud is saturated.

It must always be remembered that in locomotive working the feed water, whether natural, treated in fixed plants or in the boiler itself by adding softening material directly, always throws down harmful matter inside the boiler. The addition of suitable softening materials or any other chemical treatment of the water generally results in the formation of a muddy deposit as distinct from the adhesive substances. Foam and intense priming alone can make it impossible in a short time to keep the engines at work in spite of the water being treated, but caustic soda solutions used for washing out are also very harmful and dangerous in another way. They concentrate in the riveted joints and other fine grooves as well as under the mud, and this causes the much feared caustic embrittlement of the boiler plates. Tests carried out on the Illinois Central system in America are cited by Herr Richter. The company's committee on water treatment reported that the number of washing out operations fell from 87,409 in 1930 to 15,889 in 1933, namely, one sixth, thanks to systematically blowing down the mud. The saving thereby effected according to this calculation was $732,631 a year (£144,788 14s. 9d.) for a much smaller stock of locomotives than that of the Reichsbahn. In addition to this saving another benefit was obtained; the boiler was in first-class order so that there was no interference in the transmission of heat nor was there any foaming.

The author claimed, in his paper, that the regular blowing down of sludge requires a special device which can be relied upon if well designed. A good blow-down valve for locomotive service is definitely called for in modern engines. To be efficient it must be possible to open and shut such a valve easily in a fraction of a second. It must be operated from the cab by compressed air, steam, or by rods. The material used for the valve and seat should be rustless with a minimum Brinell number of 600 to 800, great toughness and high wear resisting properties. A force equal to at least ten times the boiler pressure acting on the cone should be required to close it, and it should be immune from failure for reasons such as wedging itself between the valve cone and its seat. It is desirable that the valve should be fitted with a special device to brake the jet of mud and deaden the loud noise whilst blowing down. Such a valve would be very difficult to design owing to the unfavourable conditions under which it must always work. The discharge it must be remembered is not pure water, air or steam as in the case of ordinary valves, but an abrasive sludge often mixed with hard scale and other foreign matter.

* * * *

## First Year of the Welding Code

WITH the approaching end of the first year of the administration of the new American Boiler Code, which permits the construction of boilers and pressure vessels by means of fusion welding, a survey is published in the *Merchant Marine Bulletin*, published by the United States Department of Commerce. The need for carefully testing welding operators was an imperative and necessary step clearly recognised by all inspectors. In the past year over 800 welding operators have submitted specimens which were tested at the National Bureau of Standards. The results of the tests have proved the necessity of making them, and it is claimed that inspectors can now feel certain that those men who are authorised to do this important work have demonstrated their ability. The tests have also shown that great care must be taken in the selection of electrodes. A certain type of electrode, which was used extensively, failed in every case, and many of the welding operators failed when using that particular type of rod, but demonstrated their ability to make welds which would successfully pass the prescribed tests with other makes of rod.

An important feature revealed by the tests was the fact that many manufacturers and contractors failed to realise the poor quality of their welding work and expressed themselves as amazed at the results of the tests of their specimens. Moreover, their conception of the relative skill of their individual welding operators was in many cases at variance with the results of the tests. In several cases men who had been rated as first-class welders proved deficient, while others who were not so highly rated by their employers made a creditable showing on the tests. Hence, the tendency has been to give more thought and consideration to the training of personnel and improving their technique in order to produce sound welds. This is, perhaps, one of the greatest benefits derived from the tests. Up to the present time, about 70 welded boilers have been constructed for use on ships subject to the jurisdiction of the U.S.A. National Bureau of Standards. Radiographs have to be taken of every inch of the welded joints and submitted to the bureau to be examined for defects in a special instrument known as the true vision stereoscope. It speaks well for the industry and for the bureau's inspectors charged with the supervision of the work that in no case have any major defects been discovered in the radiographs. It is well to bear in mind, however, that the X-ray method of photographing welds is by no means an infallible test. It is a fact that minor flaws such as shrinkage cracks are not revealed by the X-ray, and it is emphasised that inspectors detailed to shop supervision should, therefore, exercise the utmost caution when witnessing the shop tests of sample plates taken from the boiler while under construction, and should not rely wholly upon the X-ray examination.

# LETTERS TO THE EDITOR

*(The Editor is not responsible for the opinions of correspondents)*

## "High Speed Vindicated"

Court Lodge, Merstham, Surrey.
September 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—THE RAILWAY GAZETTE has done so much to encourage railway efficiency, particularly in service to the public and salesmanship, that one hopes after reading your editorial note of last week that the good work is not being spoilt by your enlistment in the ranks of "speed maniacs." Of course, speed is desired by the public, but so are safety, comfort, and punctuality. Also, railway managers have to bear in mind that railways are commercial undertakings, and speed may easily become too costly, especially where it may be hindering instead of helping to meet public requirements. If railways had regard to speed alone they would soon forfeit the annual certificate of efficient and economical management which they receive from the Railway Rates Tribunal, and, what is worse, they would soon find it physically impossible to deal with much of their general traffic.

At many points technical efficiency is restricted by financial limitations placed upon the companies by the low level of their profits. What would not be possible if all trains were fitted with continuous brakes and all level crossings removed? For my part, I believe that taking all the conditions into account, our railway system is not only more efficient in public service than at any previous time, but compares very favourably with any form of transport in this or any other country. But I grant also that it can, and will, be improved.

Yours very truly,

W. J. STEVENS

[We quite agree with the remark of our correspondent that, while speed is desired by the public, so are safety, comfort, and punctuality. Far from enlistment in the ranks of "speed maniacs," we have consistently championed safety and comfort, giving prominence to the high railway safety record, and have many times pointed out the desirability of punctuality. In any advocacy of accelerations our policy has always been to emphasise how and where high speed pays, to record experience in other parts of the world, and to show that existing high speed services, such as the Silver Jubilee, the Bristolian, and the Cheltenham Flyer, meet public requirements without impairing either safety or comfort, and with a higher degree of punctuality than that of many slower-scheduled trains.—ED. *R.G.*]

# PUBLICATIONS RECEIVED

**By Cornish Riviera Limited.** By W. G. Chapman. London: Geo. Routledge & Sons Limited, Broadway House, Carter Lane, E.C. 7⅞ in. × 4¾ in. × 1 in. 136 pp. Illustrated. Price 5s. net.—A new dignity in this type of popular literature graces the present little volume, in keeping with Nathaniel Hawthorne's well-known remark in praise of "These rail roads" which heads the author's foreword. In simple language and with accurate detail, the book tells the story of this famous Great Western express, from the day of its inauguration, July 1, 1904, to the present time. Locomotives have grown since then; coaches have become more roomy and convenient; speeds have increased, and the route from Paddington to the West has been materially shortened. Succeeding chapters describe the train's everyday progress over the whole length of its route between London and Penzance, with incidental reference to signalling, water troughs, train-working generally, and all such matters as crop up by the way. Though, naturally, less attention is paid to the scenery than in the G.W.R. booklet "Through the Window," there is enough for the reader to "see" the journey as it is described. The illustrations, nearly all of which are reproduced from photographs, are on the whole excellent, though a certain annoying artificiality attends the three "passengers" shown in a G.W.R. third class compartment. This, however, is a minor matter; the views of rolling stock and scenes along the line are worthy of every commendation, especially two which show the up and down "Limiteds" on the first day of working, thirty-two years ago, and one of the old broad-gauge "Dutchman." This is a capital little book for the juvenile or lay enthusiast, and should find a place in the pocket of everyone whose holiday takes him from Paddington into Wessex and beyond.

**The Railway Handbook, 1936-1937.** London: The Railway Publishing Co. Ltd., 33, Tothill Street, Westminster, S.W.1. 8½ in. × 5½ in. 96 pp. Price 2s. 6d.—Lord Bacon declared that there are some subjects, such as what song the syrens sang, which fall outside the range of human conjecture. After glancing through the pages of "The Railway Handbook," we are led to suppose that had the compilers extended their scope to include classical literature, they would have given not only the words and music of that fabled lyric, but the authorship and date of composition. Doubtless, however, their hands were already quite full enough with amassing all the information going to make up the outline chronology of railway history from 1801 to 1935 (ten pages in all) that is a valuable addition to the book this year. Another improvement is the bringing together of the statistical tables and the relevant explanatory articles, a plan which enhances the value of both. The section on signalling has been rewritten, while the usual revision has been carried out throughout the book. By this time the scope of the publication is well known, for the handbook has made a niche for itself in railway literature by providing in one small and convenient volume both topical and historical data relating to railways in Great Britain and Ireland (together with certain sections of world-wide application, for comparative purposes) of a kind which could otherwise be ascertained only at the expense of considerable labour on the seeker's part. The intimate affairs of railways, past and present, have a peculiar capacity for provoking acrimonious debate, and it will doubtless be increasingly recognised with passing years that he is a rash man who would embark upon discussion of controversial points of history or practice without having "The Railway Handbook" in his pocket.

**Steel-Clad A.C. Motors.**—An illustrated folder from Bruce Peebles & Co. Ltd., Edinburgh, shows a new range of a.c. motors specially designed for hard work under arduous conditions. It is stated that units of this type totalling nearly 4,000 b.h.p. have been supplied to mines and factories on the North East Coast. Thorough ventilation is combined with adequate protection in these steel-clad motors, which possess several distinctive features of design. They are quiet in working, free from vibration, and have a good starting and a high pull-out torque.

**"More for Liverpool."**—Repeat orders from satisfied users are a source of justifiable pride to Switchgear & Cowans Limited, Old Trafford, Manchester, which firm has already supplied a large amount of equipment to the Liverpool Corporation Electricity Department. Now an additional order has been received for two 250,000 kVA. switchboards, and the fact is announced in an illustrated folder with the above title. This shows a 28-panel 350,000 kVA. switchboard now in use at the Pumpfields substation of the Corporation, representing some of the Internal Isolation Switchgear units which the firm has so far supplied for the city. When the new switchboards are installed Liverpool will have 90 such units.

# THE SCRAP HEAP

At Earlswood Lakes the existing steam pumps, including one built by Boulton & Watt over a hundred years ago, from which a supply of water is obtained for the Stratford-on-Avon Canal, are to be replaced by the G.W.R. with electrically-driven plant.

* * *

BED AND BREAKFAST

It should not be assumed too readily that the decision of the Government not to apply the overcrowding regulations to holiday lodgings represents a tacit admission by the authorities that all is well with the board-residence industry. On the contrary—if we are to judge by the reasoning which has been held to justify intervention in the case of coal, cotton, iron and steel, transport, fishing and agriculture—all the evils which used to afflict these industries are rampant in the bed-and-breakfast trade.

In the first place, the industry is functioning within the simple pattern of a *laissez faire* economy, and all experts in modern reconstruction are agreed that this condition is irreconcilable with efficient operation. Entrance into the industry is ridiculously easy. The most cursory observation *in situ* will reveal that any person regards himself or herself as qualified to put up a notice offering homely accommodation to all and sundry. . . . .

What is the net result of the policy (or absence of policy) of allowing an industry to work out its salvation without let or hindrance? In the bed-and-breakfast trade we have a multiplicity of unco-ordinated and intensely individualistic producers, ranging from the luxury hotel which is strenuously supporting the official programme of reflation, down to the hopelessly inefficient widow who overfeeds a couple of youngsters because they remind her of her own boys. There is no national plan, no standardisation, no orderly production and marketing. A few simple tests will demonstrate this fact. What are bacon and eggs, the staple morning meal? One may range the whole countryside and the seaside, study all the Reorganisation Committee reports, read all the orange books, without discovering a simple clear-cut definition. Are there one, two or three rashers? Are they served with or without the rind? Are the eggs scrambled or fried? At the higher stages of production the pig, the hen and the cow are rigidly controlled and regulated. But at the final stages their products are disbursed in a perfectly chaotic manner. . . . .

The effect of these conditions on the consumer should not be forgotten. Haphazard methods of production are inevitably reflected in the casual behaviour of the *clientèle*. The terminology in vogue in the industry is significant of this tendency. People talk of "popping down to the sea," "clearing off for the week-end," "dropping in at so-and-so." Persons start in the morning for a ride, a walk or some other excursion without the slightest idea where they will put up for the night. Is this the right mentality or the right training in a world rapidly arming for a decisive struggle? . . . .

There is, however, a more decisive military argument against an unco-ordinated bed-and-breakfast industry. Peace-time lodgings are war-time billets. If the Government does not promptly take the industry's affairs in hand, one of our enterprising daily newspapers will produce a blue book on Billet Unpreparedness, which will shake the seats of the mighty. All the circumstances point to the immediate establishment of a Bed-and-Breakfast Marketing Board, with the complete paraphernalia of registered producers, regulated production, quotas, price control and central selling.—*From "The Economist."*

* * *

Rambler roses line many miles of New Haven Railroad tracks in four States, all taken from an initial planting in a deep cut at Mount Vernon, New York, in 1909, which cost $5,000. Since that time annual cuttings and transplantings have been made so that there are now 57,000 bushes along the line. The 41-mile stretch between New York and South Norwalk is practically solidly planted. In addition to the roses beautifying the lineside, the roots materially retard soil erosion.

* * *

Air-conditioned Pullmans in the United States are understood to be having an unexpected effect on the hotel business. Travelling men with 3 to 6 hour train rides ahead of them formerly tried to catch a late afternoon train so as to secure a full night's sleep in a hotel bed. Now many have reversed the process, considering most Pullman cars cooler and more comfortable than many hotel rooms. This trend has been noted on such runs as those from Chicago to St. Louis, Detroit, or Indianapolis; and from New York to Washington, Boston, or Albany.

* * *

Railways, those monstrous serpents that wind their hideous trains through the length and breadth of the land, and, like the rod of Aaron, swallow up all other channels of communication and industry. They are, in short, next to a civil war, the greatest curse that can be inflicted on the English nation. They have dried up a thousand sources of labour, profit, wealth, and comfort to the community at large, and are of no use to any except those into whose hands the frightful and unjust monopoly has fallen. . . . Go, ye dreaming addlepated projectors, ye Archimedean inventors, who let out of your wildfire brains more plagues to curse mankind than ever flew out of the box of Pandora. Go, seek an answer in the streets and market-places of all the villages, towns, and cities by which the railroad passes, that dragon monster whose fiery wings have scorched and burnt up industry and commerce to the very roots.—*From the "Dorset Chronicle" of October, 1843.*



* * *

DURABILITY OF WOOD FOR RAILWAY PURPOSES

In March, 1872, the *American Railway Times* reported that "experiments have been lately made by driving sticks, made of different woods, each 2 ft. long and 1½ in. square, into the ground, only ½ in. projecting outward. It was found that in five years, all those made of oak, elm, ash, soft mahogany, and nearly every variety of pine, were totally rotten. Hard pine, larch, and teak-wood were decayed on the outside only, while acacia, with the exception of being also slightly attacked on the exterior, was otherwise sound. Hard mahogany and cedar of Lebanon were in tolerably good condition. But only Virginia cedar was found as good as when put in the ground."

* * *

A.—"Whatever else might be said about him, he always told the truth."

B.—"Well hardly. I caught him out once, many years ago; rather a bad one, too."

A.—"You surprise me."

B.—"Yes, he told me a certain engine on the railway had a single driver. I knew the man to have been married three times and had fourteen children."

# OVERSEAS RAILWAY AFFAIRS

*(From our special correspondents)*

## NEW ZEALAND

### Completion of Preliminary Track-work at Wellington New Station

Between 9 a.m. on July 18 and 2 p.m. on July 20, very extensive permanent way alterations and new connections were made to permit of the changing over of traffic working from Lambton station to the suburban platforms of the new station. This change-over, well in advance of the completion of the new station as a whole, was necessitated by the early remodelling of the old yard to fit in with the new layout.

To ensure continuous work on the job, 150 men were organised in shifts, and special arrangements were made by the department for provision of meals at city restaurants. A sleeping car was available near the work for foremen and others who reside some distance from the city. The work was planned in detail so that each step of the week-end rush would be paralleled by the progress on other branches. Points and crossings had previously been set out near their permanent positions, and after the laying of new lengths of track, much of it carried out under floodlights, were moved over and coupled up. For the final levelling and packing of the track about fifty trucks of ballast were used.

As the permanent way work went ahead the signal engineers were busy linking up the new signalling and point control system, which is now operated from a signal cabin some distance north of the station.

## EGYPT

### E.S.R. Earnings, 1935-6

These earnings for the financial year ended April 30, 1936—exclusive of £E.8,115 from road and river services—amounted to £E.5,137,131 as against £E.5,090,981—exclusive of £E.28,780 from road and river services—for the financial year 1934-35, an increase of £E.46,150. This is an increase of 0·91 per cent. on the earnings of the previous financial year, and works out at 233 Milliemes a train-kilometre, as against 242 Milliemes in 1934-35 or £E.1,423 a kilometre open, for traffic as against £E.1,441 in 1934-35. The route-kilometrage open for traffic in 1935-36 was 3,609 as against 3,532 in 1934-35.

### The Treaty and the Railways

According to the terms of the treaty recently concluded between Great Britain and Egypt, the railway in the Canal Region is to be improved in such a way as to allow of the speedy transport of troops, guns, ammunition, supplies and other necessities of modern armies. The British Government will undertake responsibility for the necessary modifications and improvements, but if they are likely to affect civilian transport and the railway administration, the Egyptian Government has to be previously consulted and its permission obtained.

In addition, the line between Zaqaziq and Tanta is to be doubled, and the line between Alexandria and Mersa—Matrouh improved and maintained in a good state of repair. These works are to be completed within a period of eight years.

### Future Projected Subway Construction

Work on the Pyramids Road subway is now making good progress, and it is hoped to complete at least the concrete work under the track before the rise of infiltration water. The Shubra subway is to be begun next year. Two subways are to be constructed under the Helwan line, one near Sayeda Zenab Children's Hospital on Sharia Madraset El-Tibb and the other on Sharia Gameh Amr. This work will be undertaken in connection with the intensified service on the Helwan line projected in the near future with the use of diesel railcars, and work is expected to begin this year. Also it is understood that the construction of a subway at El-Maadi is under consideration, but this work is not expected to be undertaken in the immediate future.

### Mechanical Accounting

Hollerith machines for punching, sorting and tabulating accounts and statistics are shortly to be introduced into the Audit Department of the railways.

## INDIA

### Ticketless Travel

Sir Zafrulla Khan, Hon. Member for Railways and Commerce, introducing his Bill for the amendment of the Indian Railway Act to deal with the offence of travelling without tickets, moved that the Bill be referred to a Select Committee of the Assembly. He explained that if any of the Government proposals were shown in the committee to be unduly harsh, he would be prepared to modify them. There was considerable opposition to the Bill, the clauses providing for imprisonment, and for the transfer of the onus of proof upon the accused coming in for the severest criticism: the discussion on the Bill is still in progress. The Government laid on the table a statement showing the numbers of detected ticketless travellers from 1930 to 1935. In 1935 there were 2,887,014, of whom 1,957,638 paid excess fares and penalty on detection, 338,621 (including indigents) were let off or ejected, 26,695 were punished, and there were 91,082 cases pending in court. The railways have no common system for the record of these figures which are, consequently, not exhaustive. It transpired in the course of the debate that quite a large number of offenders get away by giving wrong names and addresses.

### Railway Questions in the Assembly

Sir Zafrulla Khan, in reply to a question, informed the Assembly that a sum of Rs. 23 crores or £17 million would be required to purchase the M. & S.M.R. and the two other lines whose contracts would fall due for termination in 1937. On the suggestion that the Government should take advantage of the cheap credit now available in the country for the acquisition of the railways, the Finance Member pointed out that it would be no good to raise a rupee loan in India unless the amount could be converted into sterling without difficulty. The contracts would not fall due for another 12 months, and the Government would, in the meantime, examine all relevant considerations, including the remunerative character of the investments.

The Railway Member also stated that the Government had under consideration the question of instituting an expert inquiry into railway finances as suggested by Sir Otto Niemeyer.

A statement was laid on the table, showing that a saving of about Rs. 3¾ crores (£2·81 million) per annum would result from the introduction of the new scales of pay on Indian railways.

### Light Train Service Over Willingdon Bridge

The East Indian and Eastern Bengal Railways recently introduced an experimental light passenger train each way daily between Chandanpore, on the Howrah—Burdwan Chord of the E.I.R., and Sealdah, the E.B.R. Calcutta terminus via the Calcutta Chord Railway and Willingdon Bridge. This first passenger service over the bridge proved so successful that several additional trains have now been introduced, including a service between Sealdah and Howrah, the E.I.R. terminus on the right bank of the Hooghli.

### Quota System

The East Indian Railway has followed the example of the British railways in the introduction of the quota system for the current finanical year. Each station is allotted a definite figure of earnings for every day of the year and the staff concerned is expected to maintain or improve upon this figure. The quota returns are to be completed daily and the monthly figures are published in the *Quota Gazette*. This daily watch upon earnings will, it is expected, induce the staff to make special efforts to secure the maximum

traffic at each station. So far, the system has shown satisfactory results.

## UNITED STATES

### Railways Intensify Publicity

The American railways are rapidly overcoming the handicap of inadequate advertising and publicity. The Association of American Railroads, in addition to having launched a programme of advertising in national magazines on which it will spend more than £200,000 in a year, has now organised an extensive Public Relations Department under the direction of Col. R. S. Henry, Assistant to the President, of the association. Under this direction are four sections: one each on press relations, advertising, railroad relations (liaison), and public (speakers' bureau). There will be a great increase in railway publicity matter in the press, in the cinema, and in book and pamphlet form as a result of the work of this organisation. And, in addition, many of the individual railways are making similar plans to intensify their advertising and publicity programmes.

### Traffics and Earnings Continue Upward

The American railways in July had gross revenues totalling £69,948,792, an increase of 27 per cent. over July, 1935. Working expenses were £49,673,170, an increase of 13·9 per cent., and net railway operating income (after payment of taxes and rentals) was £10,354,553, representing a rise of almost 130 per cent. above that of July of last year. For the seven months of this year, gross revenues have been 16·3 per cent., working expenses 13 per cent., and net railway operating income 35 per cent. greater than in the same period of 1935.

### Freight Traffics Moderating

The recent improvement in freight traffics has, however, begun to slacken, as a result of the drought in the Middle West. In the week ended August 22, freight car loadings totalled 735,000, which was a fractional percentage contra-seasonal decrease from the preceding week. The total was, however, still 17 per cent. above the corresponding week in 1935; but increases of 27 per cent. in gross revenues (as was enjoyed in July) cannot be sustained by an augmentation of only 17 per cent. in traffic. Which is to say that American railway performance, from a standpoint of earnings, while it promises to keep well ahead of last year, will henceforth be much less spectacular than heretofore.

### Boom in Passenger Travel

Passenger traffic (which does not bulk large in the total revenues of the American railways) continues its heartening improvement. In July the Eastern railways, which reduced rates sharply at the beginning of June, had passenger revenues 19 per cent. greater than in July, 1935. (These railways had fully expected a loss in revenues in the first months of the reduced fares). Of the important passenger-carrying railways in the East in July, the Pennsylvania had an increase in revenue of 24·6 per cent. over July last year; the New York Central 21·3 per cent.; the Baltimore & Ohio 22·8 per cent.; and the New Haven Railroad 16·3 per cent.

### Increases not Confined to Eastern Lines

These percentage increases in revenues represent a very great advance in the physical volume of traffic. The New Haven, for example, which shows the smallest augmentation of any of the large railways in gross passenger receipts, has had an increase of 78 per cent. in total passengers carried, exclusive of season ticket holders. The increase has not been confined to the Eastern lines alone, where rates have recently been reduced, but has been enjoyed in even larger measure by some of the Western and Southern lines. The Union Pacific, for example, had an increase of no less than 48 per cent. in passenger revenues in July, due in large measure, no doubt, to the great public interest which has been aroused by its streamlined trains, and by its *de luxe* train for cheap travel, The Challenger, between Chicago and Los Angeles.

### Forty-five Babies in One Train

The Challenger carries coach passengers and tourist (half-price Pullman sleeping cars) passengers exclusively. One of the features of this train is two coaches reserved for women (and small children). In these are reclining chairs, facilities for warming milk-bottles, and other amenities, including the services of a registered nurse, which are available free of charge. This service has proved most popular, since women unable to pay standard Pullman charges were formerly not catered for at all by any low-priced travel agency (buses, for instance, cannot and do not make provision for the feeding of infants). So The Challenger has developed an entirely new class of travel, which is growing in popularity. One day recently this train left its western terminus with 66 children among its passengers (accompanied, of course, by parents) and of that number 45 were babes in arms.

## SOUTH AFRICA

### Transport Conference

The South African Transport Conference, which opened at Johannesburg on September 7, and at which 15 African territories were represented, was opened by Lord Clarendon, the Governor-General of the Union. Its first business was to elect Mr. Pirow, Union Minister for Railways, as President. Owing to his unfortunate illness, he was unable to be present at the opening ceremony, and Mr. Duncan, Minister for Mines, read his address.

### Mr. Pirow's Presidential Address

In the course of it Mr. Pirow said :—

"The territories represented here today roughly cover that portion of Africa, south of the Sahara, where conditions obtain which are not unfavourable to the building up of a permanent white population. In Africa, whatever the position may be elsewhere, no white population can be permanent if it has to exist in isolation or semi-isolation. For many years to come, communications, but more particularly transportation, is going to be the basis of the white man's civilisation in Africa. And whatever our views on the native question may be, the intention is to help the native by means of the white man's civilisation. Transportation, therefore, important as it is to the whole of our Continent is vital to the territories represented here today."

### Various Forms of Transport

Continuing, he expressed the view that all, or most forms of transport from native porterage to air services would continue to co-exist for a long time to come, and would have to be dealt with strictly on their merits. Air services, none of which would, admittedly, pay for some years, should not be judged on their financial justification, as some territories represented could never be fully developed except by regular and frequent air services. The speaker, in fact, anticipated the linking up of all represented territories by daily aeroplane services in both directions within ten years, and stated that his Government was prepared to co-operate to this end.

Reverting to the question of the merits of various forms of transport, Mr. Pirow observed that: (1) No form of transportation should receive preferential treatment because it happened to be a State concern; (2) a form of transport which adequately satisfied the requirements of the locality it served, should not be discarded in favour of another means of conveyance simply because the latter was more modern; and (3) national frontiers, important as they were, should not as a matter of course override economic boundaries.

"It is from this angle," he continued, "that I hope our official agenda will be approached rather than from the point of view of any particular department or territory. The actual items to be discussed are confined to railway and airway matters, but it is clear that these, especially on the commercial side, cannot be disposed of without a careful examination of the transport problem as a whole.

"The general purpose to be kept in mind, apart from matters of technical detail, should be the wholesome co-ordination of all forms of transport, the elimination of all uneconomic overlapping, and of all waste and inefficiency.

"We have interests in common, which go far beyond questions of transportation. I can even imagine circumstances in which a threat, a military threat, to one of us might be regarded as affecting the safety of all or most of us. If Africa, apart from the Mediterranean seaboard, is ever to have a large permanent white population, it will be in the territories, or in some part of the territories, represented here today. In these circumstances I hope that contacts will be made and views exchanged which will cover everything that may be of common interest now or in the future."

### Agenda

After the plenary meeting, the conference continued its deliberations in

committee. There were two committees, the Surface Transport Committee and the Airways Committee. Their agenda included the following matters :—

*Airways :*

Consideration of regulations to govern cross-country flying.

Defining routes along which aeroplanes must fly.

Marking routes by beacons, arrows, and other suitable ground markings.

Notification of arrival and departure.

System of deposits and triptyques.

Compulsory insurance against cost of search.

Examination of qualifications for cross-country flying of pilots holding only "A" licences.

Limitation of the radius of flying by "A" licence pilots.

Equipment of aeroplanes on cross-country flights with signal apparatus and emergency rations.

Provision of adequate maps.

Provision of facilities for swinging compasses.

Introduction of a system of coloured emergency message cards, which natives might be taught to deliver as quickly as possible to the nearest European.

*Surface Transport : Railways*

*Operating :*

Train and truck control methods.

Refrigeration methods for perishable products.

Development of railcars for secondary and branch railways.

Air-conditioning of passenger trains.

Acceleration of running of trains and means to be adopted to achieve same, with special reference to the choice of characteristics of locomotives and weight of rail, and preference to be given to different classes of train in single line working.

*Commercial :*

Methods of combating road competition.

The co-ordination of road motor services with rail services.

The choice of the various means of transport in the development of commercial relations in undeveloped or slightly developed regions.

Competition of the various systems of transport with the railways, the means of obviating this and converting such competition into co-operation.

Tourist traffic and publicity.

*Accounting :*

Consideration of the question of depreciation of assets in its relation to the fixation of adequate contributions towards renewals.

*Technical :*

Consideration of advantages and disadvantages of steel as compared with wooden coaches.

Reduction of tare weight, goods and coaching stock.

Uniform gauge.

Use of electric and oxy-acetylene welding in permanent way work.

Welding of long lengths of rails and methods of carrying this out.

Sources of wood sleeper supply, paints, roofing materials.

Electrification.

# CANADA

## The New C.N.R. Board of Directors

Further details concerning the appointment of this board are now available. In addition to the Chairman and five members [whose names were announced in the personal columns of our issue of September 18—ED. *R.G.*], first appointed, a sixth member is to be chosen by the employees of the railway. It also transpires that Messrs. Hungerford, Murdoch and Gaynor are appointed for a term of three years, while Mr. Symington and the employees' representative will hold office for two years, and Messrs. McDougall and Moffatt are appointed for one year only. The Government emphasises that the board is as representative as possible of the various industrial and commercial interests of the Dominion, and that the departure in the employees having their own director on the board, if copied widely by commercial and industrial organisations would result in great advantage to the whole country. The appointments will become effective on proclamation of the new Act on October 1.

# U.S.S.R.

## De Luxe Travel

The Soviet railways, as well as improving their all-round efficiency very rapidly, are now running a few *de luxe* long-distance trains from Moscow. Unlike the usual open-type carriages in use on the system, their coaches are of the compartment pattern each with buffet accommodation. Special cars are also provided containing a nursery equipped with toys and supervised by a nurse, a library—from which books and periodicals can be delivered to any compartment—also shower and ordinary baths, a hairdressing saloon, and a compartment where clothes may be pressed, and boots cleaned or repaired.

# GERMANY

## Redistribution of Technical Work on the Reichsbahn

With a view to greater efficiency and economy, the Reichsbahn has recently re-organised the so-called "Zentralämter," that is the central technical offices, where the principal general technical work—especially new investigations and the formulating of new policies and principles of working—is carried out, as distinct from the immediate everyday operation of the undertaking. Hitherto there have been four of these departments in Berlin, viz.: Civil Engineering and Signalling; Purchase of Materials; Mechanical Engineering; Finance and Accounts. They are to be brought under one general control, with a president directing them.

It is also proposed to effect a closer co-operation between the Berlin and Munich offices, and to bring the latter under the same officer at an early date.

At the same time a certain amount of overlapping, unavoidable hitherto, is to be eliminated by a redistribution of functions. Schemes and estimates for given classes of work will be dealt with at one place only. Thus Berlin will take permanent way, signalling, telegraphs and telephones, the construction and purchase of steam, diesel and shunting locomotives, road vehicles, passenger and goods rolling stock, brakes and coupling gear; while Munich will deal with electrical engineering, power production, electrical rolling stock, railcars, including express cars, and bridge construction. The purchase of materials will also be centralised as far as possible, at one place or the other, to be determined later.

# CHINA

## Flood Damage

Early in August the Peiping-Paotou section of the Peiping-Suiyuan Railway was damaged by flood, with consequent dislocation of traffic. On the Canton-Hankow Railway a major bridge was washed away near Tayuan, and much damage was also caused at Pingshih and Yichang by cloudbursts.

## Canton-Hankow Through Services

For the forthcoming opening of this line for through traffic, your correspondent learns that orders have been placed in England for 430 goods and passenger vehicles, and 24 locomotives. Three trains of third class stock have, indeed, already arrived, and several upper class coaches are due to arrive in China during August.

## New Bridge at Nanchang

A new bridge at Nanchang, 1,086 m. (3,562 ft.) in length was begun at the end of 1934, and is expected to be completed by the end of November. Its importance lies in the fact that its opening will enable a connection to be laid between the old Nanchang-Kiukiang Railway and the new Chekiang-Kiangsi Railway, and this should be ready for traffic by January 1 next. The river crossed is the Chungcheng.

## New Lines Opened or Begun

The extension of the Lung-Hai main line westwards from Sian-fu as far as Meihsien was officially opened for traffic on August 11. It is also expected that work on the final link in the Shanghai-Hangchow-Ningpo Railway, between Hangchow and Shaohsing (Tsao-o-kiang) will be begun early in September.

# MANCHUKUO

## Tokyo Olympic Games, 1940

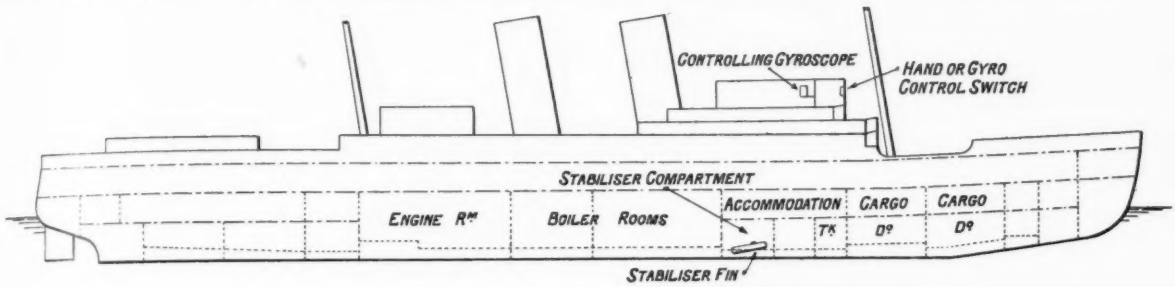
The Manchukuo State Railways administration has decided to build four new trains at a cost of Y. 3,000,000 to deal with the large influx of tourists crossing over from Europe via Manchukuo, for the Olympic Games in Tokyo and the exhibition in commemoration of the 2,600th anniversary of the founding of the Japanese Empire.

## Three New Constructions

Three new lines are now under construction. In May last work was begun on a line from Hsientungchan to Taopikou, a distance of 80 km. The second line, which is of the same length, will connect Lungchingtsun with Antu. Finally there is the Sanchakow-Taopikou line, 40 km. long, which is expected to be finished before the end of this year. These three lines are intended mainly for forestry development in the provinces of Chientao and Pinkiang.

# NEW ANTI-ROLLING DEVICE FOR SHIPS

## *Interesting tests on the Southern Railway Company's cross-channel steamer "Isle of Sark"*

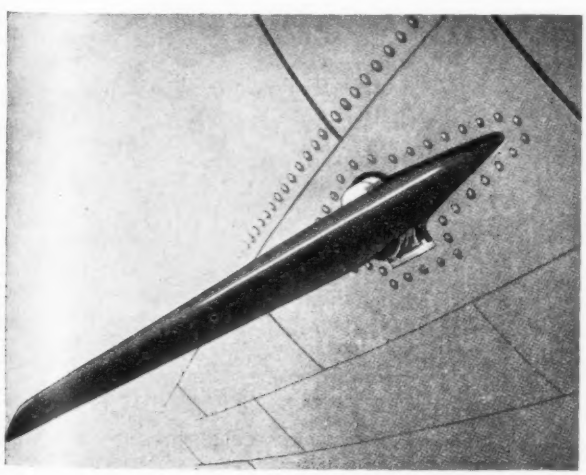



*Profile of "Isle of Sark" showing position of stabiliser fins*

ON Thursday of last week a large party of guests of William Denny & Bros. Ltd., Dumbarton, Brown Bros. Ltd., Edinburgh and the Southern Railway, journeyed to Southampton to embark on the *Isle of Sark* to witness a demonstration off the Isle of Wight of the Denny-Brown stabiliser fitted in this vessel.

The *Isle of Sark* was built at Dumbarton in 1932 and has a gross tonnage of 2,211 tons. She is employed on the regular passenger and cargo service between Southampton and the Channel Islands and was selected for the experiments mainly because she had a spare tank forward in which the device could be housed without too much structural alteration. Numerous experiments were previously conducted in the Dumbarton Experiment Tank on a model of the *Isle of Sark*, where electrically-controlled oscillating weights forced the model to roll to known angles and at various periods. A stabiliser fin was fitted on each side and these fins could be worked to any angle up to 25 degrees. Experiments showed that a total of 16 degrees of roll could be eliminated with the fins oscillating 15 degrees each way. It was further found possible to set the fins when fixed at such an angle that the increase of resistance on their account did not exceed 5 per cent., a figure considered satisfactory, taking into account the advantage gained by the improved sea-going qualities of the vessel in heavy seas.

The Denny-Brown stabiliser consists primarily of fins or planes which project from the side of the ship, as shown in our illustrations and the most suitable position is about the turn of the bilge and not too far forward or aft. The fins are designed to oscillate round an axis which is placed at the centre of pressure of the fins with the ship steaming ahead, and hence the torsion moment required to produce angular movement of the fins is comparatively small.



*Starboard fin in operating position*

It is, of course, of prime importance that the oscillation, that is the reversal of the aspect of the fins, should be effected rapidly. This is achieved by hydraulic power with telemotor control, similar, in its main principles, to the well-known steering gears manufactured by Brown Bros. & Co. Ltd. In a cross-channel ship, the total period of double roll may not exceed 10 seconds, and it is obvious that only a small part of this time may be allotted to the reversal of fins at the end of each roll if the righting moment is to be effective over a sufficient period to produce the desired result. In the *Isle of Sark*, reversal takes place in 2 seconds. Having made provision for rapid oscillation of the fins, it is then only necessary to control them to provide the damping moment at the correct period. This can be done by using a small gyroscope. The power required to work these fins is comparatively small and in a cross-channel ship of normal size the stabiliser will call for a motor of only about 30 h.p.

Since most of the working apparatus was under water and hidden from view, interest in the demonstration was considerably enhanced by the employment of a cinematograph film taken while the *Isle of Sark* was in dry dock. This showed various movements of the fins under different operations. In addition to this, short lectures were given by Sir Maurice Denny, Chairman of William Denny & Bros. Ltd. and Mr. W. Wallace of Brown Bros. & Co. Ltd. The rolling operations began after the luncheon, following a short speech by Col. G. S. Szlumper, Assistant General Manager of the Southern Railway, who explained each stage of the operations as they were about to take place. The ship was rolled up to a steady 14 degrees on each side of the vertical and, with the fins still out but not operating, rolling ceased in about 50 seconds. The ship was again rolled with the assistance of the fins and then the fins were put into their anti-rolling action with the stabiliser in operation. The effect was almost instantaneous and the ship was completely steady at about the third roll. The simplicity of the device enabled the guests to work it themselves. The fins are retractable when not needed and in this condition are, of course, contained entirely within the hull. In addition to preventing rolling, it has been found that the fins, when in the fixed position, exercise considerable influence in counteracting pitching.

# NEW MIXED TRAFFIC LOCOMOTIVES, G.W.R.

***These engines, known as the "Grange" class, have been built to replace some of the 2-6-0 type***

THE first of a new series of locomotives having the 4-6-0 wheel arrangement and generally similar in design to the "Hall" class, but with smaller coupled wheels, has recently been built at the Swindon works of the Great Western Railway. The engines have been designed for dealing more expeditiously with fast freight services such as the Cornish broccoli trains bringing produce to the London markets, and will assist in working seasonal traffic, fruit trains from Worcestershire, and heavy excursion trains. They will replace engines of the 2-6-0 type, 4300 class, which are being condemned.

The engine illustrated, No. 6800 *Arlington Grange*, is the first of the new series to be completed. The engines are similar in design and appearance to the present "Hall" class and carry the standard No. 1 boilers, but have 5 ft. 8 in. diameter coupled wheels instead of 6 ft. 0 in. diameter. New cylinders of an improved design have been fitted, but the bogie is of standard pattern as used in the "Hall" class engines. The larger boiler and increased boiler pressure will provide a greater tractive effort and enable the locomotives to maintain fast speeds over much greater distances than the 4300 class which they supersede. The following are the leading particulars:—

| | |
|---|---|
| Cylinders (2) dia. | 18½ in. |
| Piston stroke | 30 in. |
| Wheels, coupled, dia. | 5 ft. 8 in. |
| Wheelbase, rigid | 14 ft. 9 in. |
| ,, total engine | 27 ft. 1 in. |
| ,, engine and tender | 53 ft. 4¾ in. |
| Boiler, heating surface :— | |
| Fire tubes | 1,686·60 sq. ft. |
| Firebox | 154·78 ,, ,, |
| Total | 1,841·38 ,, ,, |
| Superheater tubes | 262·62 ,, ,, |
| Combined total | 2,104·00 ,, ,, |
| Grate area | 27·07 ,, ,, |
| Boiler pressure | 225 lb. per sq. in. |

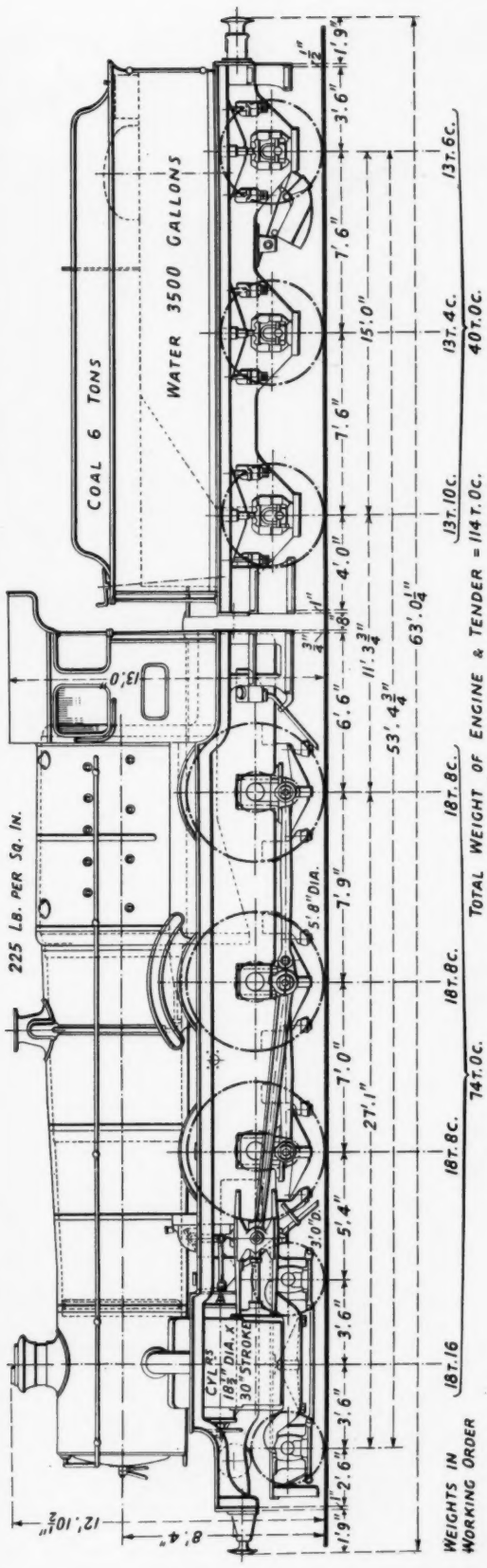
The tender is of the standard six-wheeled pattern with a water capacity of 3,500 gallons and coal capacity of 6 tons. The engine in working order weighs 74 tons and the tender 40 tons, giving a total of 114 tons.

## The Railway Position in North Africa

CONTINUING decline in the production of phosphates and minerals and a serious decrease in the tourist traffic have combined to intensify the serious plight of the railways in the French protectorates along the Barbary coast. Despite most modern equipment and efficient working, the operating ratio of the Moroccan Railways has risen from 68 in 1929 to 98 in 1935, what time the receipts rose from 60 million fr. in 1929 to 75 million fr. in 1931 and dropped to 60 million again in 1935. But retrenchment, lower salaries, deferred renewals, and co-ordination with road and industrial interests have been carried as far as possible and the expenditure on operation in 1935 was reduced only by 4·7 per cent. to 59 million fr. On the Tangiers-Fez Railway reduction in the cost of operation has been a more difficult matter because of the necessity of retaining separate staffs of two nationalities, and of the special organisation resulting from a line running through the French, Spanish and International zones. Thus, although the working expenditure has been reduced to 15·26 million fr. from 20·43 million in 1929, no reduction has been possible since the end of 1933. But in the last seven years the receipts have dropped by 63 per cent. to 9·01 million fr. The decrease since 1933 has been alarming, for whereas the figure for that year was 15.24 million fr., the total for 1934 was 11·35 million and for 1935 only 9·01 million. Despite a lowering of tariffs in June, 1935, the drop in tourist traffic, on which the Tangiers-Fez Railway's passenger revenue is largely dependent, has intensified the crisis. For operating purposes the Algerian State Railways and the P.L.M. (Algerian) system have been combined as one unit since 1933. The aggregate receipts of the two lines have fallen from 397·4 million fr. in 1930 to 229·7 million fr. in 1935, and this decrease of 42 per cent. has been followed by a decrease of 33 per cent. in the working expenditure, from 474·2 to 318 million fr. A large measure of co-ordination between the various forms of transport has been effected since 1934.

Amalgamation and co-ordination of railways and road transport concerns have been carried to their limit also in Tunis, but whereas in Morocco, at least, the railways were prosperous for many years, the position has been exactly the opposite in Tunis, where the thousand-mile system of the Tunisian Railways has been worked at an operating ratio of well over 100 for many years, due to certain natural difficulties, and to most of the routes having been built for strategic and cultural reasons rather than with any hope of earning profits. Nevertheless, there has been some slight improvement in the position, and during 1935 the total revenue rose by 2 per cent. to 47 million fr. and the operating expenses were lowered by 9·5 per cent. to 98·1 million fr., the operating ratio being 208 compared with 235 in 1934. The number of passengers carried increased by 3 per cent. to 3·6 million in 1935, but due to a lower tariff the passenger receipts were 5 per cent. less, and an increase of only 5 per cent. in the goods revenue followed an increase of almost 20 per cent. in the tonnage carried.

There has been a continuous decrease in expenditure, and the figure for 1935 was only 67 per cent. that of 1930; however, in the same period the receipts had fallen to 45 per cent. Salaries and pensions form over 75 per cent. of the total expenditure, and in 1932 retrenchment was begun. In the two following years salaries and pensions were reduced by 10 per cent. or more, promotions were retarded, and finally the retiring age was reduced to 50. Railcars have been introduced on the Tunis-Bizerte and Tunis-Ghardimaou lines, and their use is to be extended to the metre-gauge lines at the beginning of 1937. The slightly increased business of the Tunisian Railways has not extended to the privately-owned Sfax-Gafsa line in the south of the country, which depends largely on the carriage of phosphate for its revenue. Like the Tunisian, Algerian, and Moroccan Railways it has reduced its expenditure almost to the last penny. The responsible governments are making up the annual deficits of four railways in these countries, but unless there is a decided increase in the purchasing power of the indigents or a similar increase in the tonnage of freight carried to the sea for export, there is not the slightest hope of these North African lines becoming remunerative.


*NEW 4-6-0 "GRANGE" CLASS MIXED TRAFFIC LOCOMOTIVES, G.W.R.*

(See article opposite)

# PULVERISED FUEL PLANT AT CREWE LOCOMOTIVE WORKS, L.M.S.R.

*New equipment for supplying pulverised bituminous and anthracite fuel to forge, annealing, and steel melting furnaces*

A NEW pulverised fuel plant has recently been installed at the Crewe works of the London Midland & Scottish Railway. It consists of two independent and self-contained units; the bituminous section for supplying pulverised bituminous fuel to the forge and annealing furnaces, and the anthracite section for supplying pulverised anthracite fuel to some steel melting furnaces nearby. No. 1 plant is designed to produce 30 cwt. of pulverised bituminous coal an hour from raw small bituminous coal not over ¾ in. cube in size, having an initial moisture content not exceeding 12 per cent. At present 1 ton an hour is produced, this amount meeting all requirements. No. 2 plant is designed to produce 17 cwt. of pulverised anthracite coal an hour from raw anthracite coal not over ¾ in. cube in size, having an initial moisture content not exceeding 12 per cent. The present production is 13 cwt. an hour.

The raw coal is deposited from the trucks into a track hopper, whence it is elevated by a bucket elevator and discharged into the raw bituminous or anthracite coal bunkers. In the bituminous section of the plant the raw coal, being a washed fuel and therefore wet, passes from the bunker to the coal dryer, which is of the rotary louvre type. As the coal passes through the dryer, hot gases are allowed to flow through the coal bed, thereby removing the moisture in the coal, which leaves the dryer in a perfectly dry condition.

From the dryer, the coal is conveyed mechanically to the pulveriser, which is of the ball mill type. The coal is conveyed into the rotating drum of the ball mill, where it is crushed to powdered form by the ball charge. An air current passing through the mill removes the dust as soon as it is fine enough to be air borne, and carries the powdered fuel through the classifier and into the powdered fuel storage bunker. In passing through the classifier any coarse fuel that is not fine enough to be burnt in pulverised form, is rejected and passed back to the mill for further grinding. Temperature and thermograph instruments are fitted at all points in the system so that, from the operating floor, the temperature of the coal at the various stages of preparation may be watched and checked.

Below the main pulverised fuel storage bin are located the fuel feeders, which withdraw the fuel in accurately pre-determined quantities from the bunker and discharge it into the primary (or carrying) air circuit, by which it is conveyed to the burners of the furnaces. The fuel feed is controlled electrically from the furnace by the operators, and the secondary air required to complete combustion is also so controlled locally. Perfect regulation of fuel feed and, in consequence, accurate adjustment of furnace temperature and atmosphere is obtained. thus giving a control over furnace conditions equal to that obtained with oil or gas firing.

In the anthracite section of the plant the fuel is dried and pulverised in a similar manner to that in the bituminous section but, owing to the greater degree of fineness required, a larger pulveriser unit is installed, which reduces the fuel to the exceptional fineness of 99·5 per cent. through a 120 mesh screen. In order to ensure that the fuel is consistently maintained at this fineness a double classification is given, the fuel being passed through a secondary classifier after leaving the mill classifier. The anthracite powdered fuel is finally deposited in a storage bin, from which it is fed mechanically to the service bunker supplying the steel furnaces.

The whole installation is fitted with all the latest developments and improvements in pulverised fuel firing, and may be regarded as one of the most modern and up-to-date plants in this country. It was manufactured and supplied by the Standard Pulverised Fuel Co. Ltd., of London.

# RAILWAYS AND ROAD TRANSPORT SECTION

*This section appears at four-weekly intervals*

## British Railways' Motor Cartage Services

SINCE the British railway companies obtained their road transport powers in 1928 they have almost trebled their stock of road motor vehicles, so that at the present time they own about 10,000, the majority of which are 2-ton and 4-ton vehicles utilised principally for maintaining the regular collection and delivery services.

The introduction of the mechanical horse, or three-wheeled, pneumatically-tyred tractor, occurred at a most appropriate moment and the success of this unit has accounted for a considerable proportion of the increase. The exceptionally easy manœuvrability of the articulated vehicle formed by the tractor working a load-carrying trailer renders it eminently suitable for railway service. Apart from the success of the system from the mechanical standpoint, there is the consideration, equally important in work of this nature, that the most expensive part of the outfit does not have to stand idle for long periods during loading and unloading operations. During the last four years the railways have increased their stock of mechanical horses threefold, and at present they have over 2,500 in use, representing approximately one quarter of their total road motor fleet.

The rapid growth in the number of road motors has been an important factor in the general acceleration of freight transport, which has been such a noticeable feature of railway operation in recent years. The co-operation of their rail and road services has enabled the companies to concentrate at one particular station consignments of less than one wagon load, which were previously dealt with at a number of adjacent stations, and deliver them by means of road motor to the surrounding districts. This method of operations avoids the necessity for transferring traffic from main line to subsidiary services, and enables appreciable savings to be effected in transit time, handling costs, and wagon user. By dealing with traffic by motor vehicle from the main town goods station instead of from the nearest suburban goods station, it has also proved possible to give traders whose factories are situated on the outskirts of large industrial areas a service practically equivalent to that given more centrally situated factories.

Apart from the collection and delivery of rail-borne traffic, the railways are conveying a steadily increasing tonnage by road throughout where the nature of the traffic or the area of movement lends itself to this form of transport. For this purpose a large number of vehicles is employed, ranging from light vans to 12-ton lorries and special types for particular loads or traffics. In connection with the extensive building schemes now in progress in many parts of the country, the companies are delivering many thousands of tons of bricks, sand, ashes, tiles, &c., to the building sites. They also undertake the cartage of pipes for the numerous local authorities who have in hand extensive drainage and sewerage schemes, this type of work necessitating the delivery of pipes at various points along the route, while similar arrangements are made for the delivery of cable and standards in connection with electrical development schemes. Road-making also accounts for a considerable traffic, stone being loaded into lorries at the quarries and off-loaded at various points along the highway where it is to be used.

In the case of articles of exceptional weight or dimensions, such as boilers, girders, transformers, &c., the special equipment supplied by the companies and their associated cartage companies enables door-to-door or work-to-site transport to be readily undertaken, the companies also being prepared to carry out the incidental dismantling and re-erection work, if desired. In order to meet the requirements of the agriculturalist, the companies have provided a number of cattle lorries, double-deck livestock lorries and vehicles specially fitted for the cartage of milk. In addition, the railway country lorry services operated in many parts of the country within a radius of about twenty


*A batch of Karrier Cob three-wheeled tractors lined up at the maker's works before delivery to the L.N.E.R.*

miles from a railway station, afford farmers in outlying districts regular collection and delivery services at reasonable cost, and greatly facilitate their purchasing and marketing operations. The seasonal requirements of agriculture associated with the marketing of fruit, flowers, sugar beet and other vegetables, and the various agricultural shows, also make heavy demands upon the railway cartage facilities, and in meeting them with satisfaction the railways are making an important contribution to the welfare of the industry.

## "Grande Vitesse" for the Paris Suburbs

ROAD transport plays the key part in a scheme of *grande vitesse* parcels service for all Paris suburban stations, which has been in operation since May 15 this year. The system was introduced to speed up the transport of consignments which have to cross Paris between the termini of two systems, formerly accomplished in trains of the Ceinture lines. Under those conditions, a parcel handed in on day A would be sent to the terminus of the receiving company that evening, but would not be put on the Ceinture until day B; leaving Paris again on the night B/C, delivery was not effected until day C at the earliest. Today, a fleet of motor vans, each running direct to a particular railway terminus, collects *grande vitesse* consignments at the more important suburban stations. The parcels can thus be sent on from Paris to their destinations the same evening, arriving in most cases twenty-four hours earlier than before. Parcels handed in at the smaller suburban stations, where the vans do not call, are sent on by passenger train to the first collecting point. Incoming *grande vitesse* traffic for the suburbs is similarly dealt with, being transferred by road before 5 a.m. from the terminus of arrival to that serving the station of address, and going forward either in a road motor of the company concerned, or in the early morning passenger trains. In either case the parcels are ready for collection by the time the station opens. It will be seen that this is a case where the handiness of the motor vehicle enables an operation to be carried out economically and so effects a much greater saving of time than could otherwise be achieved, and rendering a service that is bound to be appreciated by consignees.

## Rail-Road Policy in Indian State

THE working of a new rail-road policy adopted in the State of Nawanagar will be watched with keen interest. The new policy is a direct result of the efforts of the Manager of the Jamnagar & Dwarka Railway to secure co-ordination of transport. The scheme provides that all bus owners shall form an association, and bus operation will be controlled and guided by the railway who will also draw up the timing schedules. Routes will be allotted to various owners for operation and development, and no "poaching" will be permitted. Owners will be responsible for the maintenance of their buses in sound running condition, and the compulsory insurance against third party and passenger risks will ensure that only serviceable buses remain in the pool. Drivers and cleaners will be provided by the owners, but the railway will have complete control over the sale, check and collection of tickets. The railway will keep separate accounts of bus operation. The railway will be entitled to a fixed percentage of the gross earnings and the balance will be remitted to the owners at the close of each month. The usual scale of fares will be six pies per mile, but a reduction in special cases may be made over long-distance routes which bring traffic to the railway. All disputes will be referred to a constituted Board of Arbitration whose decision, though final, may be appealed against to His Highness the Jam Sahib.

## Railway-Built Buses

AMONG the many railway-owned bus services of former years dealt with by Mr. Charles E. Lee, Assistant Editor of THE RAILWAY GAZETTE, in his recent paper to the Railway Club (to which brief reference was made on page 463 last week) were those of the old Great Eastern Railway. Inspired by the pioneer efforts of the G.W.R., the Great Eastern secured powers by its Act of June 24, 1904, to work motorbuses, and in July of that year began the Lowestoft—Southwold service with Milnes-Daimler vehicles. A year later, in preparation for further developments, the G.E.R. caused some concern to the motor trade by building at its Stratford works complete buses. The illustration alongside shows the last of the twelve constructed and the robust chassis will be seen; this was noticeable even at a time when the reduction of unladen weight had not received the attention accorded it later. It was fitted with a 38 h.p. engine with four 120 mm. cylinders, with 140 mm. stroke. In addition to the ordinary braking equipment, the vehicle had slipper brakes acting on the rear tyres.

The Norwich—Loddon service, on which the bus illustrated is shown as working, was begun in 1905, and on September 9 of the same year a group of routes in the Chelmsford area was inaugurated; the latter became the nucleus of the undertaking of the present Eastern National Omnibus Co. Ltd. In the northern parts of East Anglia the railway-associated bus services are now in the hands of the Eastern Counties Omnibus Co. Ltd.; but direct railway operation of road motors in this area survived the war period, and actually the Ipswich—Shotley route was not sold by the Great Eastern Railway to the Eastern Counties Company until April, 1922.


*A railway-built bus, one of twelve turned out at the Stratford works of the old G.E.R. in* 1905

# Collecting Fruit and Roots

***How the M. & G.N.J.R. organised motor road services to assist growers of fruit and beet to get their produce to factories or to stations from which it may be quickly distributed to provincial markets***

IN an article that is included in the current issue of the *L.N.E.R. Magazine* dealing with the activities and development of the Midland and Great Northern Joint Railway, Mr. R. B. Walker, Traffic Manager, has naturally something to say regarding the road services that have been organised to assist agriculturists, particularly the growers of fruit in the Wisbech district and those who are concerned with the cultivation of sugar beet in the King's Lynn area.

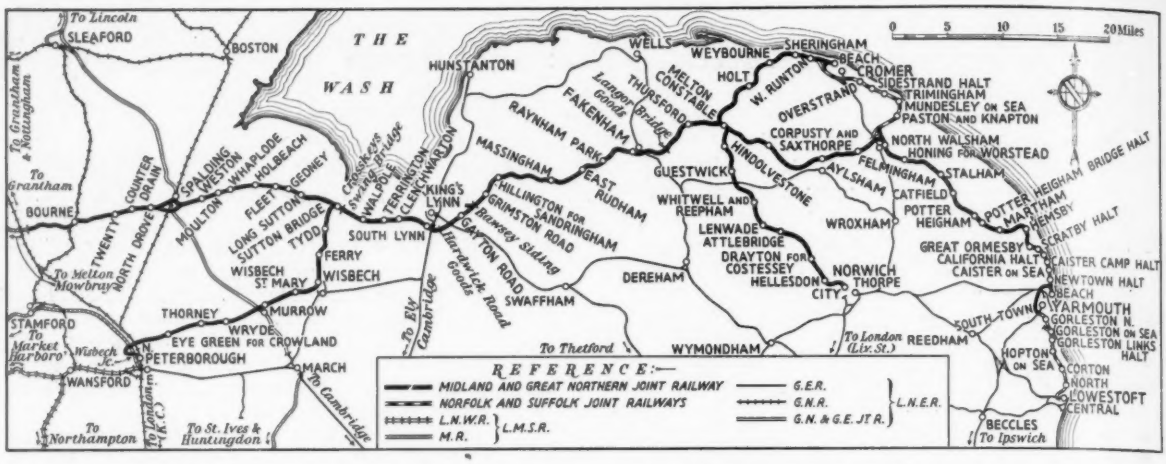
Mr. Walker points out that Wisbech is the centre of the fruit-growing industry whence millions of chips of strawberries are despatched to the large provincial centres each year, and has been selected by the L.M.S.R. as a suitable point for the conduct of experimental low-temperature transport of strawberries. This service has attracted considerable attention from all sections of the trade, and although still in the experimental stage, is achieving its aim in opening up new long-distance markets. The main feature of the scheme is the use of Drikold (I.C.I. synthetic ice) in specially constructed insulated containers, by which means the fruit is cooled and maintained at a temperature lower than when loaded. A further interesting development is the letting of premises in the Wisbech station yard to a well-known firm of preservers, to enable experiments to be carried out which, if successful, will have a beneficial effect on rail carryings in future.

The M. & G.N. in 1934, faced with ever-increasing road competition for fruit, started a collection service for this traffic. During the first season about 15,000 chips of strawberries were collected, but the service has been so successful that during the 1936 season it was extended to 8 stations and over 300,000 chips have been handled. The service has been the means of bringing numerous small growers residing long distances from rail into daily contact with the stations, and, in conjunction with the special trains, has given them a wide choice of markets, a facility which road hauliers do not provide. Choice blooms are also intensely cultivated and tons of them are forwarded from this district. There is also a heavy traffic in potatoes.

*Fleet of motors engaged on collection of fruit traffic at Wisbech*


*Charging of insulated containers with Drikold, for the conveyance of soft fruit traffic*

At South Lynn is the King's Lynn Beet Sugar Factory, erected in 1927, with a rail connection to the joint line. To combat the intensive road competition for sugar beet the M. & G.N. instituted a "Farm to Factory Service," by which beet is conveyed from farmers' roadside




*Map of the Midland & Great Northern Joint Railway, the Norfolk & Suffolk Railways, and (indicating pre-grouping ownership) adjacent lines*

dumps to the factories, partly by road and partly by rail. This service was introduced in 1929, when 10,000 tons of beet were handled, but by 1934, the tonnage had grown to 40,000, an evidence of its popularity with the farmers. In addition to retaining traffic to rails, other benefits accrue from the service, such as a quicker turn round of wagons, less congestion in country station yards, and a better station organisation, owing to the cartage of most of the traffic being under the control of the railway staff. A branch from South Lynn to Lynn Harbour deals with a large traffic of various commodities from incoming vessels.

The area served by the Midland and Great Northern Joint Railway is indicated in the accompanying plan which we reproduce from *The Railway Magazine*, in the September issue of which appears the first part of an article dealing with the history of the line. This is particularly interesting in view of the fact that the line, owned jointly by the London Midland & Scottish and London & North Eastern Railways, is as from October 1, to be worked by the latter company. Assurance has been given that care will be taken to preserve the close touch which has always existed between the M. & G.N. management and the public of the district. Doubtless, under the energetic management of the L.N.E.R. the special cartage services which have so amply justified themselves will be still further developed.

---

1847—TODAY.—This is the title of a brochure just published by Thomas Tilling Limited, which gives a few glimpses of the history of the concern and reveals something of its far-reaching activities, even to supplying the equipages for some of the most famous historical films. A host of photographic illustrations of old and new vehicles is included and the two pages of horse-drawn ones are specially fascinating. It is a little astonishing to know that there are still more than 500 horses—twice as many as Napoleon had at Fontainebleau—in the Tilling stables at Peckham. The London bus business goes back to the days of the 1850 exhibition but we can hardly subscribe to the statement that Thomas Tilling pioneered the system of picking up passengers at points on a fixed route. The brochure also covers the activities of Tilling subsidiaries, like Daimler Hire Limited and E. W. Rudd Limited.

---

THORNYCROFTS FOR ARGENTINA.—There is much that is interesting about the rigid six-wheeled Thornycroft vehicle we illustrate, just supplied to the Argentine Government. Twelve of them have been supplied, the order being placed after exhaustive tests of more than 40 different types of three-axle vehicles. A six cylinder, overhead valve petrol engine is fitted, developing up to 75 b.h.p. and the twin driving axles are equipped with Dunlop 9·00 in. by 22 in. Trakgrip tyres. The patented system of rear axle suspension gives even distribution of weight on all four wheels of the bogie, irrespective of the relative movements of the axles.

# Nickel Alloy Steels in Commercial Vehicle Construction

***In a brochure issued by the Bureau of Information on Nickel, Mr. C. C. Hodgson, the Chief Metallurgist, Leyland Motors Limited, indicates where such steels may be used and deals with their heat-treatment***

IN the introduction to this valuable addition to the series of reports issued by the Bureau of Information on Nickel, Mr. C. C. Hodgson points out that the manufacture of constructional alloy steels has grown up side by side with the automobile industry and no single metal has played a bigger part in the development of these strong constructional steels than has nickel. Certain of the nickel alloy steels may be used with advantage by the automobile engineer because they possess qualities not yet attained by any other material of construction and it is significant that the strongest case-hardening, constructional, and heat-resisting steels all contain notable amounts of nickel. The author does not attempt to show that all nickel alloy steels are indispensable in commercial vehicle engineering but indicates where such steels may be used and points out where certain of them are invaluable because of their unique properties.

Nickel steel was originally applied almost exclusively to armaments but within a few years those engaged in the manufacture of motor vehicles realised that here they had a material that would assist them to produce the light but strong components they desired. It is not clear who first used nickel steels for this purpose, but it is on record that the American designer Haynes used a nickel steel front axle in a car in 1899. Some nickel steels in use have undergone no substantial change in the course of the last thirty years although their reliability is greater because of improvements in the methods of manufacture and heat-treatment.

Some of this success Mr. Hodgson attributes to the fact that nickel is a " good


*Fifteen years of progress in design of public service vehicles by Leyland Motors Limited. Weight per passenger has been reduced, greater comfort has been provided, and engine performance increased*

mixer" and takes kindly to the presence of many other alloying elements, indeed it displays its excellent qualities to greater advantage when used in quaternary and complex alloy steels than it does when used alone. For this reason such steels have replaced plain nickel steel for many applications where it is essential to combine strength and toughness with lightness of construction. The outstanding development since the war in the realm of constructional alloy steels is the increasing use of molybdenum. The nickel steels containing molybdenum, or molybdenum and chromium are, Mr. Hodgson says, unsurpassed in their capacity for combining the properties of high strength with toughness and relative freedom from mass effect.

Dealing with the subject of specifications, Mr. Hodgson expresses the opinion that stricter adherence by consumers to standard steels would react ultimately to the advantage of both steel-maker and consumer. At the present time such unanimity is, unfortunately, far from being accomplished. It may be urged that the consumer requires material conforming to some agreed standard of mechanical or physical properties and that he is not concerned with how this is attained. Up to a point this view is correct, and if the consumers' business were only to assemble completely finished components it would be wholly correct, but generally such a state of affairs does not exist. The consumer may desire to work, heat-treat, or machine the material he buys. All steel of the same ultimate tensile strength does not exhibit similar behaviour during machining, and all steel capable of giving the same range of mechanical properties does not necessarily require the same heat-treatment. Specifications based primarily on the mechanical properties of the material, to the exclusion of other factors, are not likely to meet with universal acceptance by users working on modern production lines. On the other hand, too strict an adherence to such suggestions would, in the long run, result in loss and not gain. The best experimental steels of today become the standards of tomorrow.

It is by the use of alloy steels that the engineer has been able to design powerful, high speed, engines and light, strong chassis, capable of carrying the maximum payload for the minimum of unladen weight. Something of what this has meant can be seen by comparing the two illustrations on the previous page in which are depicted vehicles of Leyland design and construction with an interval of fifteen years between them.

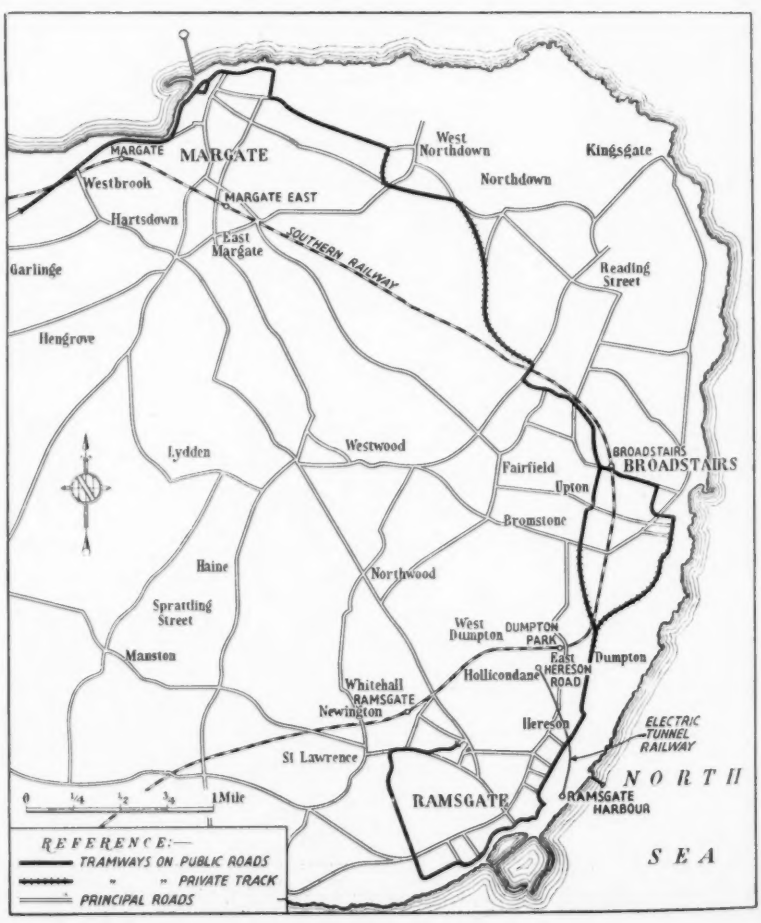
In the second part of the brochure Mr. Hodgson deals with the technical properties of the various types of nickel-alloy steels and their heat-treatment under different conditions. Some micro-photographs are reproduced and four tables are also given which makes this publication a really valuable one for the automobile engineer to study and keep by him.

# Reorganising Road Transport in Thanet

BRIEF reference was made in our issue of August 21 to the extensive scheme of local road transport reorganisation that is planned for the early part of next year in consequence of the impending abandonment of the Isle of Thanet tramway and light railway system. The lines in question were promoted towards the end of last century by a company formed in November, 1896, the same year as the Light Railways Act was passed. This company, which afterwards became very well known as the Isle of Thanet Electric Tramway & Lighting Co. Ltd. (although it had originally a slightly different title), secured a Light Railway Order on August 13, 1898, and built the lines shown on our map, which were opened on April 4, 1901.

Agreement has been reached with the Ramsgate and Margate Corporations and the Broadstairs U.D.C. as a result of which the light railway and tramway system is to be abandoned on or before March 31 next and buses substituted. The company is to contribute £16,100 towards the cost of reinstating the public roads; the private tracks owned by the company will be taken over by the local authorities.

The abandonment is planned to be followed by a reorganisation of the buses in Thanet, for an agreement has been reached whereby the tramway company's buses (including those introduced in replacement of the trams) will be sold for £175,000 to the East Kent Road Co. Ltd.



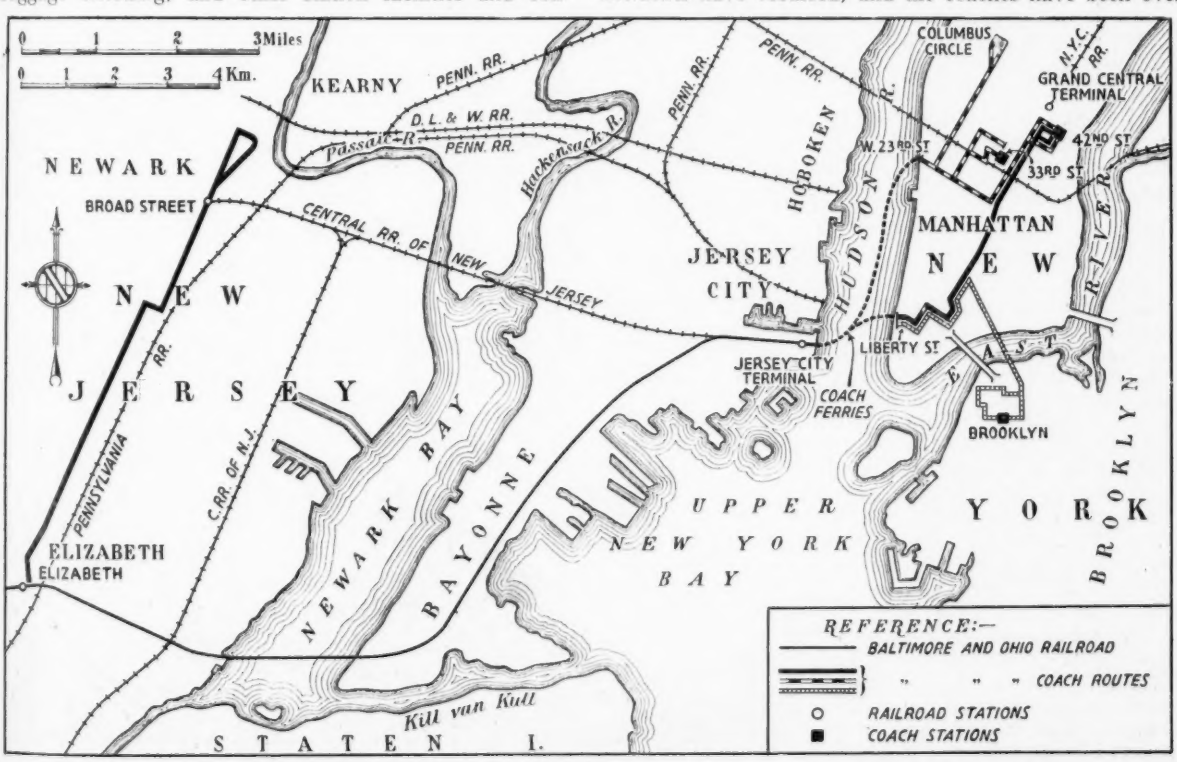
# Important Railway Terminal Facilities Provided by Road

*How a great American railway transports its passengers from a terminus outside the city. The system includes ticket offices, waiting rooms, and luggage facilities*

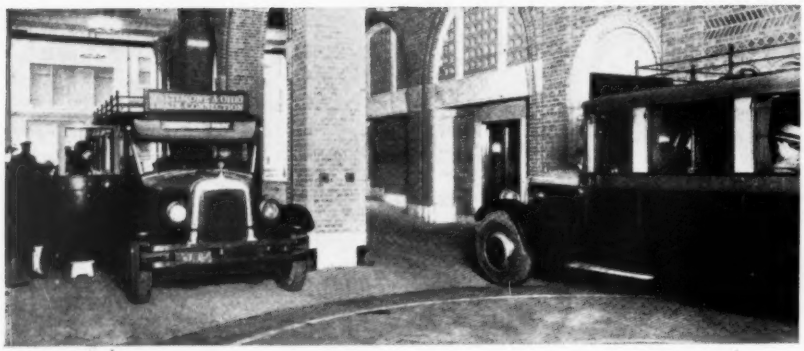
ONE of the most notable examples in America of long-standing and close co-ordination between road and rail is that which was virtually forced on the Baltimore & Ohio Railroad exactly a decade ago. At that time the company was confronted with the problem of changing radically its passenger station status in New York City after having shared, by direction of the Government, one of the great centrally-located metropolitan terminals. It was, of course, necessary to offer the public a service comparable with that of competitors, and much apprehension was felt as to the outcome as the railroad was faced with returning to the old pre-war arrangement of working its trains to and from Jersey City only, which, as our map shows, is on the opposite bank of the Hudson river.

*The Forty-second Street terminal of the Baltimore & Ohio buses in New York is of attractive interior design*

Much study was given to the problem, and, of several plans considered, the one finally decided upon was the present system used by the Baltimore & Ohio—a fleet of motor coaches to transport its passengers to and from the trainside at Jersey City to the heart of New York and Brooklyn. By working these coaches (heated in winter) over convenient routes, with ticket offices, waiting rooms, baggage checking, and other station facilities and conveniences at three well-known and frequented points in New York and one in Brooklyn, the Baltimore & Ohio Railroad not only succeeded in replacing its lost rail facilities but also offered even more accessible terminal points than heretofore. During the past ten years the 28 motor coaches in the Jersey City-New York-Brooklyn service have covered 1,750,000 miles, and carried more than 2,500,000 passengers. Despite the hazards of New York City traffic, particularly during the winter, no serious accidents have occurred, and the coaches have been over




*Sketch map showing the routes of the Baltimore and Ohio buses in New York and Newark*



*Good loading facilities under cover are provided at off-line stations. The buses run in order to connect with train services*

98 per cent. on time in delivering passengers to their destinations—a remarkable record. The coaches are carried across the Hudson river between Jersey City and Manhattan Island on the regular ferries.

One of the New York stations is in the Chanin building, Forty Second Street, directly opposite the Grand Central terminal and the Commodore Hotel, and with a direct subway connection with the Grand Central terminal of the New York Central System. Other stations are at 35 West Thirty Third Street, near the Empire State Building, and at Columbus Circle, Central Park West. The Brooklyn station is at 191 Joralemon Street, in the Borough Hall district. Besides taking on and letting off passengers at these four stations, the Baltimore & Ohio coaches, which seat 22 passengers, make stops en route at other points, including many leading hotels, and serve in all 14 places in New York and Brooklyn. Connection between coach and train is assured in both directions, and this terminal service is provided for Baltimore & Ohio passengers without any charge in addition to the regular fares.

A similar co-ordinated train and motor coach service is worked by the B. & O. between the railway station at Elizabeth, N.J., and Newark, a distance of approximately five miles. Motor coaches meet all trains upon arrival at Elizabeth and transport passengers and their hand baggage to the Broad Street station of the Central Railroad of New Jersey in Newark, with optional delivery at the Robert Treat Hotel and the Public Service Terminal Building. Similar outbound facilities are, of course, provided, and connections are made with all B. & O. trains from Elizabeth to the south and west.

## I.A.E. Repair Certificates

During the next few days the long summer vacation for technical institutes comes to an end and classes recommence for both day and evening students. Many of the larger institutes now have facilities for teaching the elements of automobile engineering, and, where this is so, courses of study have been arranged in the evenings for automobile mechanics and electricians who wish to qualify for the Institution of Automobile Engineers Repair Certificates. For older repair men the test set by the institution is a wholly practical one lasting about four hours, but younger men are required to pass in addition a three-hour written examination of the City and Guilds of London Institute. Electricians and mechanics submit to different examinations and tests, and the repair certificates are accordingly of two kinds, mechanical, and electrical. Evidence of some years of working experience must be produced by candidates for the final practical test, and certificates cannot therefore be gained by mere boys straight from a course at college or school. Winners of certificates are entitled to wear a badge, and possession of this already ranks among the necessary qualifications for employment with a number of up-to-date firms.

## Landmarks in History

One of the most interesting of the special excursions, run from Mendoza, a city at the foot of the Andes, to neighbouring beauty spots with historic associations, is the one to the Hill of Glory, which stands 1,300 ft. above the city. On this hill is erected the famous monument, dedicated to the Argentine regiment, which, led by General José de San Martin crossed over the Andes in 1816 and liberated the countries of Chile and Peru from the Spanish yoke. The photograph reproduced shows an oil-engined Leyland Tiger, one of the 16 Leyland buses operated by the Cita undertaking, standing at the foot of the monument, which is 110 ft. high and supports life-size effigies of mounted warriors.


*A Leyland single decker on the Hill of Glory in the Andes*

# RAILWAY NEWS SECTION

## PERSONAL

At a recent meeting of the Railway Statistics Committee, the presentation of a gold cigarette case was made to Mr. W. V. Wood, Vice-President of the L.M.S.R., to mark his retirement from the committee after a membership of 10 years, during the last 6 of which he has been Chairman.

---

Sir Alfred Read, Chairman and Managing Director, Coast Lines Limited, will be inducted as President of the Institute of Transport and will deliver his presidential address at the first ordinary meeting of the institute for the session 1936-37, at the Institution of Electrical Engineers at 5.30 p.m. on Monday, October 12.

---

INSTITUTE OF TRANSPORT PREMIUM AWARDS, 1935-36

The council of the institute has made the following premium awards in respect of the session 1935-36:—

*Railway Operating Medal.* (Donor: The Railway Companies Association.)

To Mr. W. V. Wood (a Vice-President of the Institute), a Vice-President of the Executive, L.M.S.R., for his paper on "The problem of railway charges."

*Railway Engineering Medal.* (Donor: The Railway Companies Association.)

To Mr. W. H. Myers (Member), Chief Electrical Engineer, New South Wales Government Railways, for his paper on "Main line railway electrification with special reference to conditions in New South Wales."

*Dock and Harbour Gold Medal.* (Donor: The Dock and Harbour Authorities Association.)

To Sir David J. Owen (Past President of the Institute), General Manager, Port of London Authority, for his paper on "The future of port control with special reference to the possibilities of grouping."

*Institute Graduate Medal.*

To Mr. J. L. Grumbridge, of the London Midland and Scottish Railway, for his contribution on "The effects of the depression, 1929-34, on the railways of Great Britain and the U.S.A.

*Institute Student Medal.*

To Mr. E. D. Brant, of the Railway Research Service, for his contribution on "The Institute Austrian Tour, 1935."

Mr. Ronald Leslie, who, as announced in THE RAILWAY GAZETTE of July 31, has been appointed London Manager and Secretary of the Central Argentine Railway, has been General Manager of that system since 1926. He was educated at Aldenham School and Pembroke College, Cambridge, from which he graduated with an honours degree in 1899. After a period of foreign travel, he entered, in 1902, the General Manager's office of the Midland Railway, England, in the service of which company he remained for 12 years. In February, 1903, he was transferred to the office of the Superintendent of the Line, and served on the staff of the London District Superintendent, being afterwards attached to the staff of the District Superintendent at Leeds. He returned to Derby in 1906 as Assistant to the Superintendent of Passenger Trains, and after being in charge of the Derby District Superintendent's office during a period of reconstruction, was appointed in September, 1913, Superintendent of Freight Trains, a position which involved the supervision of the well-known train-control system of the Midland Railway. This post he relinquished in May, 1914, to take up that of Assistant to the General Manager of the Central Argentine Railway. In October, 1918, Mr. Leslie was appointed Deputy Traffic Manager, and in 1922 he was promoted to be Traffic Manager, the position he held until appointed General Manager in 1926, in succession to Mr. Howard Williams. In 1929, Mr. Leslie made an extensive tour through the United States and Canada, for the purpose of studying railway conditions and methods of operating in those countries. During his period of managership he has been the railway and tramway companies' representative on the Council of the British Chamber of Commerce in Buenos Aires, and also a Member and Past-Chairman of the Argentine and River Plate Centre of the Institute of Transport, and a Member of the Institution of Locomotive Engineers (London).

***Mr. Ronald Leslie,***

General Manager, Central Argentine Railway, 1926—36, now appointed London Manager and Secretary of the Central Argentine Railway Limited

Prior to leaving Buenos Aires on August 28, Mr. Leslie, as well as being received in special audience by the President of the Republic, was the guest at a number of farewell demonstrations by his colleagues and the staff of the company, the general managers of the other foreign-owned railways, and the British Chamber of Commerce. A précis of his speech at the luncheon of the latter body, at which he was a guest, and brief accounts of the other farewell functions will be found on pages 502-3. An editorial note on page 479 summarises events during his management, and expresses the esteem and good wishes of the staff of the railway and of his friends.

---

From the *London Gazette* of September 15: Territorial Army, Royal Engineers; Engineer & Railway Staff Corps—Lt.-Col. T. P. Frank, M.Inst.C.E., to be Colonel (September 16).

---

We regret to note the death, in Singapore on September 15, of Prince Purachatra of Siam, formerly head of the Siamese State Railways. Educated at Harrow and Cambridge, he afterwards served with the Royal Engineers. In the interests of the railways and of wireless communications, he visited many foreign countries, and was intensely interested in all technical

improvements and communications generally.

Dr. J. T. Batey has retired from the board of R. & W. Hawthorn Leslie & Co. Ltd.

Mr. E. T. Hippisley has been appointed Manager of the Traction Department of the British Thomson-Houston Co. Ltd.

From the *London Gazette* of September 22: Territorial Army; Royal Engineers, Engineer and Railway Staff Corps.—Lt.-Col. H. L. Wilkinson resigns his commission, with permission to retain his rank and wear the prescribed uniform. Mr. F. R. Potter to be Lt.-Col. (September 23).

We regret to note the death, on September 16, of Mr. John Donald Mollett, Chief Mechanical Engineer, North Western (State) Railway, India. Mr. Mollett, who was previously Superintendent of Mechanical Workshops, with jurisdiction throughout the N.W.R. system, took over the duties of C.M.E. from Mr. D. Cardew, when he proceeded on leave preparatory to retirement in March last. Mr. Mollett had been in poor health for some time.

Sir Harold Hartley (Vice-president, L.M.S.R.), who, as Chairman of the International Executive Council and Chairman of the British National Committee, attended the recent World Power Conference in Washington, together with Mr. C. E. Fairburn (Electrical Engineer, L.M.S.R.), is expected to arrive back in this country on October 1 aboard the *Empress of Britain*.

Mr. W. A. Pickwoad, General Manager, La Paz, Antofagasta (Chili) and Bolivia Railway (Bolivia Section), has again been appointed Director General of Transport for the repatriation of prisoners, &c., in the recent war between Bolivia and Paraguay. In recognition of his help during the war, the Chief of Staff of the Bolivian Army has issued a General Army Order decorating Mr. Pickwoad with the Orden de Merito Militar.

We regret to record the death, on September 21, of Mr. Frank Hornby, the originator of that most instructive of toys Meccano and of the famous Hornby model trains and railways.

We note with regret the death of Herr Heinrich Dorpmüller, Chairman of the committee responsible for making the special traffic arrangements for the recent Olympic Games in Berlin. Reference to the record traffic successfully carried in connection with the event is made on page 504.

In the editorial note on page 437 of our issue for September 18, regarding women occupying responsible positions in the railway service, Miss Oxenford was inadvertently referred to as Assistant Controller instead of Assistant to the Controller of the L.M.S. Hotel Services.

# Mr. Ronald Leslie's Farewell to Argentina

Mr. Ronald Leslie, who vacated the position of General Manager of the Central Argentine Railway in August to join the headquarters administration of the company in London, was entertained to a number of farewell functions prior to leaving Buenos Aires.

On August 19, he was one of the guests—which included the British Ambassador, Sir Neville Henderson, K.C.M.G.—at the customary monthly luncheon of the British Chamber of Commerce; there were about 160 present. At the invitation of the Chamber he delivered an interesting address on the Argentine railway situation. The Chairman, Major W. A. McCallum, in proposing the toast of "The Guests," coupled with the name of Mr. Leslie, said that that was the last public function of the Chamber at which they would have the pleasure, for some time, at any rate, of seeing Mr. Leslie, who had been a member of the Council for the last ten years. He therefore desired to take the opportunity of letting him know how very highly they appreciated his collaboration and the quiet efficiency and considered judgment which he had always brought to their discussions. They would all miss Mr. Leslie very much, and he wanted him to know that he carried with him their best wishes for good health, much happiness and every success.

Standing (left to right): Dr. R. Zavalia Lagos (Lawyer); Messrs. R. Flack (Chief Accountant); R. K. Hubbard (Assistant to the General Manager); R. Kirby (former Chief Engineer, retd.); L. A. Woodbridge (Chief Engineer); C. Case (Stores Superintendent); W. P. Deakin (Chief Mechanical Engineer); and A. S. Matthews (Secretary to the British-Argentine Railway Committee in Buenos Aires)
Seated (left to right): Dr. P. F. Agote (Lawyer); Mr. D. M. MacRae (the new General Manager); Mr. R. Leslie; Engineer A. Iturbe (Chairman of the Local Board); Dr. A. N. Matienzo (Lawyer); Mr. F. C. Lynch (former Assistant to the General Manager, retd.); and Mr. G. F. Sampson, Traffic Manager

***Group taken on the occasion of the recent farewell luncheon given by the local directors, lawyers and chief officers of the Central Argentine Railway, to the retiring General Manager, Mr. Ronald Leslie, at the Jockey Club, Buenos Aires, on August 26***

## Mr. Leslie's Address

Although Mr. Leslie referred in passing to the effects upon the railways of depressed trade and the exchange problem—handicaps that had cost the "big four" Anglo-Argentine railways about £4,000,000 during the last financial year—the bulk of his address was devoted to the question of road competition. The case for the railways has probably never been so clearly, fairly and convincingly presented, the address being all the more impressive by reason of the moderate language used, which, except for an occasional flash of irony—as when the speaker invited the road interests "to emerge from the stage of woad and feathers and don the garments of modern civilisation"—was entirely free from either bitterness or invective.

Mr. Leslie expressed the hope and belief that the good sense of the Argentine people would ensure the passing of a Transport Co-ordination Law, such as already existed in the other important countries of the world. Such a law, presented by the Executive Power itself four years ago to Congress, now awaited the sanction of the Senate. Unfortunately, during that time it had been modified to such an extent that it was merely a shadow of its former self, since it now dealt only with interprovincial traffic, and even to that there were important exceptions, owner drivers, for instance, being excluded from its scope. Nevertheless, they would prefer to have it as it was, if only as an earnest of better things to come rather than risk further delay.

The speaker then proceeded to examine some of the arguments advanced by the motor transport champions, and skilfully turned them against their advocates. He pointed out that during the last 36 years the average interest

on railway capital invested in Argentina was only 3·77 per cent., including debentures; surely not an excessive return. Had British capital not been available to build the majority of the railways—and between 1850 and 1900 there was no other country which did much in that line—the Argentine Government would have had to build them itself if the country was to progress as it had done. No internal capital being available, the Government would have had to obtain by loan the necessary funds from abroad, probably from England. From that day to this it would have had to pay a higher rate than 3·77 per cent. for that money in good years and in bad, since the ruling rate of interest on Argentine loans abroad had, he believed, been consistently more than this figure. So far then from having squeezed the country dry, as was alleged, the railways had proved a most excellent bargain, especially when it was remembered that they were cheaply built and also that their construction had been responsible for such enormous appreciation in land values—the source of so many fortunes—though they themselves at times had suffered in consequence.

In reply to the argument that road transport, as an Argentine industry, merited preference in its own country over the foreigner, Mr. Leslie pointed out that if they accepted the statement of the road interests that all their staff was Argentine—a large mouthful—and that all their capital was Argentine—an even larger one—it must be remembered that there were approximately 130,000 railway employees, of whom barely one per cent. was British, and they and their families, and those with whom they dealt, formed no small part of the population of the Republic. The capital of the railways was irrevocably embedded in the country, although perhaps many a shareholder would now like it out. It was true that the railways bought their coal and locomotives abroad, as they were not obtainable in the country, but they also bought many millions of dollars' worth of Argentine products, principally in the form of sleepers, cement, bricks, stationery, &c. Their coal imports formed a valuable balance to the export of Argentine cereals, and so kept down the ocean freights of the latter.

The charge made by the road interests that the railways were exempt from paying large sums in import duties, whilst they themselves were heavy contributors, Mr. Leslie refuted by saying that a large proportion of what the road interests said the railways ought to pay was in reality in the form of imaginary duties on articles on which no one paid duties. He also pointed out that, not only was the road-bed, without which the motor companies could not work, provided free and maintained for them by the Government, but the railways themselves made a fairly handsome contribution to road construction by carrying stone by the train load for that purpose at half rates, and it was doubtful if these covered even bare working expenses.

In conclusion, Mr. Leslie asked what was going to happen if matters drifted on as they were and indiscriminate pirating of the railways' most paying traffics continued without their being given the means to defend themselves? Railways, though fortunately tough, were a machine, and like all machines, subject to much wear and tear and required constant repairs and renewals of worn out parts, rails, engines, &c. To provide for renewals, the Railway Law allowed them to set aside 2½ per cent. per annum of their perishable assets; for years past no railway had done anything like that; with difficulty they had covered essential repairs and the minimum of renewals. Much repair and renewal work which should normally be done was piling up each year against them. If this went on, the machine would certainly run down, its services would deteriorate, and all those who did business with the railways would feel the consequences to a very serious extent, especially as for cereals, cattle, stone, &c., the railways were still irreplaceable, and they were, in any case, the most important form of transport in the country. Such a situation had been met on the English railways and also in the United States by giving them Government guaranteed loans with which to repair and modernise, in order to maintain themselves as efficient elements in the transport work of the country. How was that situation, if it arose, going to be met in Argentina?

### General Managers' Dinner

Among the other farewell functions in his honour, Mr. Leslie was entertained by the General Managers of the other foreign-owned railways at a dinner at the Jockey Club, Buenos Aires, on August 24.

### Local Directors' and Chief Officers' Luncheon

On August 26, Mr. Leslie was also the guest of the local directors, lawyers and chief officers of the Central Argentine Railway, at a luncheon at the Jockey Club, at which the General Manager-Designate, Mr. D. M. MacRae, O.B.E., was present. A group photograph taken on the occasion of this luncheon is reproduced on the opposite page.

The Chairman of the Local Board (Engineer Atanasio Iturbe) who presided, expressed the deep and sincere regret of himself and his colleagues at losing Mr. Leslie, with whom they had been associated for so many years in the work of the railway. He assured Mr. Leslie that he carried with him to London the sincere and hearty good wishes of all his railway colleagues in Buenos Aires, for many years' success, good health and happiness in the important and responsible post to which he had been appointed by the board of directors.

Mr. Leslie briefly but feelingly replied, warmly thanking Engineer Iturbe for the kind sentiments he had so felicitously expressed, and all present for the loyal support and unfailing co-operation which they had at all times given him during the many years they had been privileged to be associated together in the agreeable work of advancing the interests of the Central Argentine Railway.

### Staff Demonstrations

In addition, two farewell demonstrations were arranged by the railway staff, who desired to show their esteem for Mr. Leslie and their regret at his departure. At the first of these gatherings, members of the Traffic, Chief Engineer's, Accountant's, Chief Mechanical Engineer's and Stores Departments were present, and Mr. Leslie was the recipient of a cheque.

At the second of these functions in his honour which was attended by the staff of the Management, Local Committee, Signals and Telegraphs, and Electrification Departments, he was presented with an oil painting of an Argentine landscape by the well-known Argentine artist, Antonio Alice.

## Vickers Film for South African Exhibition

We recently had the pleasure of viewing and hearing the sound film specially produced by the staff of Vickers Limited for showing at the Empire Exhibition, Johannesburg. The photography and sound reproduction were both of a high standard, while the subjects covered the many industries of Vickers Limited and the subsidiary companies which form the Vickers group. The film took an hour to show, and although it was impossible to give anything like a complete review of Vickers activities, the producers succeeded in giving an admirable survey.

The film showed among other things the production of ingots, heavy forgings, marine crankshafts, and tailshafts, carried out by the English Steel Corporation at Sheffield. The manufacture of railway rolling stock and materials, ships, and aircraft was also included. The producer, instead of photographing and describing the production of various machines, throughout presented them doing the work for which they were designed. The description of both heavy engineering and of domestic products have been carried out in an entertaining manner. The scientific instrument works of Cooke, Troughton & Sims Limited, and the rubber products of the Ioco Rubber Company also figure in the film.

A long commentary accompanied the exhibition, and we understand the film will be exhibited every other day at the cinema in the exhibition at Johannesburg.

# Notable Emergency Runs on the L.N.E.R. Silver Jubilee and G.W.R. Bristolian

(*See editorial notes on page* 481)

On Friday, September 4, the remarkable record which has been maintained by the Silver Jubilee for almost a year, during which practically no time has been booked against the locomotives notwithstanding the exceptional demands on locomotive power made by the continuous high speed at which this express is booked, was broken by the engine *Quicksilver* running hot on the southbound journey and having to come off the train at York. The station pilot, an N.E. type Atlantic, took the train forward to Doncaster, but the driver, hoping for another engine in better condition for the high-speed work required, stopped again here and was provided with the only locomotive immediately available, one of the Great Northern Atlantics, No. 4452. Once again the extraordinary capacity of these locomotives was shown by the fact that the distance of 156 miles from Doncaster to King's Cross was covered in 139 min., at a start-to-stop speed of 67·3 m.p.h.; this is only 8 min. more than the actual Silver Jubilee schedule, notwithstanding the fact that the Atlantic was starting from Doncaster instead of passing at speed. According to the guard's journal, from Doncaster, Retford, 17·4 miles, was passed in 19 min.; Newark, 35·9 miles, in 34⅗ min.; and Grantham, 50·5 miles, in 47 min. The high speed stretch of 29·1 miles from Grantham to Peterborough (including the initial 5·4 miles' ascent at 1 in 200) was run in 24 min.; then followed times of 17 min. over the 17·5 miles from Peterborough (passed slowly) to Huntingdon; a remarkable 22 min. for the 27·0 miles, largely on rising grades, from Huntingdon to Hitchin; 12 min. for the 14·2 miles from Hitchin to Hatfield; and 17 min. for the final 17·7 miles from Hatfield to King's Cross, making 92 min. up from Grantham (105·5 miles), and 68 min. from Peterborough (76·4 miles). Actually, including a total of 15 min. spent at York and Doncaster, the overall time for the 232·3 miles from Darlington to King's Cross was only 231 min. As detailed in our issue of August 14, 1936, in connection with the emergency handling by a Great Northern Atlantic of a train of 585 tons from Grantham to York, these engines have only 20 in. × 24 in. cylinders, 170 lb. pressure, 40 tons adhesion weight, and a total weight without tenders of 69½ tons; and although No. 4452 was built in 1910, and is thus 26 years old, the design, apart from superheating, dates back to 1902, 34 years ago. The driver was Samwells, of King's Cross shed.

Another run of an even more remarkable description was made recently on the Great Western Railway, by the down Bristolian, as a result of engine No. 6015 having run hot. The train was stopped at Reading, and 2-cyl. 4-6-0 No. 2937 *Clevedon Court*, which was standing on duty as station pilot, was substituted. A remarkable start was made, speed rising to 78 m.p.h. in 11 miles of level track, so that Didcot, 17¼ miles, was passed in 15 min. 53 sec. from Reading. After this adverse signals were twice experienced, but in 5½ miles speed increased from 55 to 75 m.p.h., and up continuous grades of 1 in 754, 1 in 880, and 1 in 834, there was a further increase to 80 m.p.h. at milepost 69, 82 at Shrivenham, and 83½ at milepost 75½. From Uffington to mile post 75½ the times tied exactly with those of the considerably more powerful 4-cylinder 4-6-0 engine *Manorbier Castle* on the record run with the 5 p.m. down Cheltenham Spa Express on June 6, 1932. *Clevedon Court* ran the 10¾ miles from Didcot to Challow, including 1¼ min. loss by the signal checks, in 9 min. 41 sec., and the 13¼ miles from Challow to Swindon in 10 min. precisely. At Swindon speed was eased to 78 m.p.h., but rose to 80 at Wootton Bassett, and 90 at the foot of Dauntsey bank; then, however, there was a bad permanent way relaying check near Chippenham. Up the 1 in 660 from Chippenham to Corsham speed recovered from 46 to 72½ m.p.h.—another remarkable achievement—but was not allowed to exceed 78½ m.p.h. in the tunnel, and was eased from Box to Bath, where a reduction to 34 m.p.h. was made. The 16¾ miles from Swindon to Chippenham were run in 12 min. 44 sec., and the 12⅞ miles from Chippenham to Bath, p.w. slack included, in 11 min. 11 sec. For the 9⅞ miles from Bath to St. Anne's Park 9 min. 21 sec. were needed, including a maximum speed of 76½ m.p.h. on the level at Keynsham, and a further minute was lost by adverse signals outside Temple Meads. Thus the entire 82·3 miles' distance from Reading to Bristol, for which the Bristolian is allowed 72 min. pass (at high speed) to stop, took 72 min. 28 sec. start-to-stop, or a little under 69 min. net, the latter figure giving a start-to-stop average of 71·6 m.p.h. From Pangbourne to milepost 92, 50½ miles were run in 39 min. 46 sec., or 38½ min. net—an average of 78·7 m.p.h.; and despite the slow running of the "King" from Maidenhead to Reading, 6 min. 57 sec. standing there, and 3½ min. loss by checks, Temple Meads, 118·3 miles from Paddington, was reached in 117 min. 17 sec., no more than 12¼ min. late. Although the "Court" class 4-6-0's were actually built in 1911, the design itself dates back to 1902, when the first 2-cylinder 4-6-0's were built, and the ability of the veteran to work the Bristolian from Reading to Bristol in a time which, with a flying start, would have been at least 5 min. net under schedule, is thus all the more noteworthy. These engines have 18½ in. × 30 in. cylinders, 225 lb. pressure, and a weight of 72 tons in working order; the train consisted, as usual, of seven vehicles of 216 tons tare and 225 tons gross, and the driver was Jones, of Old Oak shed.

We are indebted to Mr. R. E. Charlewood for the times and speeds.

# Record Olympic Games Traffic

Remarkable figures have been published in *Die Reichsbahn* concerning the heavy traffic dealt with by the German State Railway during the Olympic Games in Berlin. This began to be apparent on July 28, from which date until August 17 inclusive, 2,159 special trains were run to and from that city in addition to extra portions of the ordinary trains, and 3,900,000 passengers were conveyed, or 2,553,000 more than usual in such a space of time. Most of these trains used the Anhalter station. August 9 and 16 were the heaviest days, with 189 and 215 specials, of which 180 were run to the additional Heerstrasse station. Siding capacity being limited, 384 empty trains had to be sent to places further out.

The Stadtbahn lines carried an enormously increased traffic, and every available vehicle had to be pressed into service, although some new ones had been specially ordered. The delay in holding some of the events made it necessary to keep constant watch on the arrangements. From August 1 to 17 no fewer than 8,341 extra trains were run and 28,400,000 persons carried, or 8 million more than the normal figure, of which 4,400,000 were conveyed to the 4 principal Olympic stations, with 4,580 extra trains. August 9 and 16 were here again the heaviest days, with 2,148,000 passengers. During these two days there were 1,485 special "S"-Bahn trains.

The excellent behaviour of the crowds enabled the traffic to be handled punctually and expeditiously, and without incident or mishap of any consequence. It is with regret that we now learn of the death of Herr Heinrich Dorpmüller, chairman of the committee responsible for working out the special traffic arrangements.

CANADIAN PACIFIC STREAMLINER.—The 4-4-4 streamlined locomotive No. 3100 and its four-car streamlined train is to go into fast service between Calgary and Edmonton at the end of this month.

# MINISTRY OF TRANSPORT ACCIDENT REPORT

**Near Willesden Junction, L.M.S.R.: May 29, 1936**

The 7.45 a.m. horse and carriage train, Euston to Carlisle, was travelling at about 20 m.p.h. on the down slow line, ¾ mile beyond Willesden Junction, when an upper door on horse-box No. 42039, which had been attached at that station, opened and struck the third coach of the 7.38 a.m. passenger train, Bletchley to Euston, travelling at about 60 m.p.h. on the up fast. The distance between the outside rail faces of the two tracks is here 6 ft. 0½ in. The side of a first class compartment near the trailing end of the coach was wrecked above the waist line and the hasp and securing rod of the horse-box door entered it. A passenger was killed and the remaining five slightly injured. The accident occurred at about 8.50 a.m.; Major G. R. S. Wilson conducted the inquiry.

The horse-box was built in 1926 and received a general overhaul in 1934. The side doors of the horse compartment are of wood, in three portions, the lower being hinged at the bottom. The two upper ones are hinged vertically, the left-hand door having no fastening but closing against plates on the lower one and roof rail. The right-hand door carries a bolt sliding in two brackets, projections on which close against the two other doors and the roof rail. The lower end of the bolt rod is formed as a hasp, and the top engages with a hole in a plate attached to the lower side of the roof rail when the bolt is lifted, after which the hasp is turned to engage with a stud on the lower door. A taper cotter, secured to a chain by a ring, is then inserted in a slot in this stud, the ring being left over the end of the latter for greater security. Similar studs and cotters secure the lower door, and the arrangement has been standardised by the Railway Clearing House for new construction.

W. J. Orchard, driver of the passenger train, shut off steam on sighting Willesden No. 7 distant signal against him, but did not apply the brake until he had passed No. 5 box distant. Coasting freely at about 60 m.p.h., he passed the other train, driving on the left and next to it. He saw no door out of place, but was almost certain he would have had there been one. Unaware of the accident, he was stopped at No. 5 box home signal, but was unable to create the vacuum to start, the communication cord having been pulled in the damaged compartment. A company's servant then informed No. 5 box of the circumstances, and the horse and carriage train was stopped at Bushey, its enginemen and guard also being unaware of the accident. The passenger train went on to Willesden Junction. First aid was promptly rendered and a doctor arrived almost immediately.

A complaint that a horse had been injured had led to the horse-box being examined the previous day by Mr. Munk, Carriage and Wagon Foreman, Willesden, assisted in the removal of interior fittings by Repairers P. Moxey and R. S. Gerrard, and Lifter E. J. Taylor, all familiar with the door fittings. Mr. Munk then left instructions to close the doors. Moxey said he closed the bottom one, assisted by the other two men, putting in the pins himself, and then closed the two top doors, standing on a water butt to enable him to reach and fasten them correctly. This was generally confirmed by Gerrard. Taylor, however, made conflicting statements to the company and Major Wilson as to who closed the two top doors, but he and Gerrard agreed that Moxey stood on the butt and secured them. Certain repairs having been made to the vehicle, it was marked to make a trial trip to Rugby and back in the train concerned in the accident, and it was finally examined by Taylor on the morning of May 29. He said he made a careful examination and found everything in order.

Passenger Shunting Inspector R. J. Starr, who shunted the horse-box with other vehicles that morning, assisted by Shunter W. J. Hance, said no rough shunting took place, and he noticed nothing amiss, though he did not look particularly at the door fastenings. The vehicles were attached to the train by Relief Shunter J. Bradley, supervised by Inspector G. Royce. The latter noticed nothing wrong except a missing gangway board. He would have noticed if a pin on the horse-box had been out. Bradley did not notice the door fastenings, but both men said there was no rough shunting. Passenger Guard J. A. Garratt was sure he would have noticed a pin out, but saw nothing wrong with the horse-box. He had seen pins out when boxes came from a dock, but never knew one to work out when travelling. Examiner B. H. Savage examined the train at Willesden before departure, being responsible for doing so, and it took him from 10 to 15 minutes. He closed a window in the groom's compartment and, though not in the habit of scrutinising door fastenings individually, said he would have noticed a pin out. In 17 years as examiner he had never known one to come out, but had seen them so when a horse-box had come from an unloading dock. The signalmen concerned noticed nothing wrong with the passing train.

All the door fittings on the left-hand side were accounted for; the fastening rod was badly bent, but nothing indicated it to have been defective. The flat cotter showed no undue wear; the ring, chain and stud were intact. Major Wilson examined the fastenings on the other side and found them in good condition, and a series of tests showed in every case, that if a cotter was only just inserted in the stud, oscillation or violent impact tended to make it drop further in, not jerk out.

### Inspecting Officer's Conclusions

Major Wilson is forced to conclude that Repairer P. Moxey, in spite of contrary evidence, did not properly secure the two upper doors, and that the cotter was never, in fact, placed in the slot. The door concerned remained fully closed until the trains were passing; probably draught caused it to open. Moxey, however, cannot be considered responsible for the accident. He had been called from other work to assist and had no specific duty, as had Lifter Taylor, to see that the vehicle was in order before he left it. Considerable responsibility must rest with the latter and Examiner Savage, who must both have failed to detect that the doors were not properly secured on the morning of May 29. Neither man was pressed for time, and it was Savage's duty to ensure that the vehicles were safe to travel in all respects. Guard Garratt also had plenty of time, yet failed to carry out his duty to see the doors in his train properly secured. No blame attaches to the shunters Hance and Bradley, who were fully occupied with their work and had no responsibilities in connection with examination of vehicles.

Major Wilson makes no recommendation. This type of door fastening is simple, efficient and familiar to the staff; to have ensured that the doors were properly secured required nothing more than ordinary attention to duty. This appears to have been lacking.

# Exports of Railway Material from the U.K. in August

| | Aug., 1936 | Aug., 1935 | Eight Months Ending Aug., 1936 | Eight Months Ending Aug., 1935 |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| Locomotives, rail .. .. .. .. | 59,890 | 74,671 | 1,012,242 | 468,151 |
| Carriages and wagons .. .. .. | 41,582 | 150,976 | 868,735 | 786,372 |
| Rails, steel .. .. .. .. .. | 124,270 | 115,762 | 908,654 | 563,910 |
| Wheels, sleepers, fishplates and miscellaneous materials .. .. .. .. | 124,516 | 245,752 | 988,577 | 1,265,870 |

Locomotive and rail exports included the following:—

| | Locomotives Aug., 1936 | Locomotives Aug., 1935 | Rails Aug., 1936 | Rails Aug., 1935 |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| Argentina .. .. .. .. .. | — | — | 1,637 | 1,856 |
| Union of South Africa .. .. .. | --* | —* | 76,210 | 76,785 |
| British India .. .. .. .. | — | 14,988 | 23,289 | 39,778 |

* Figures not available

# NOTES AND NEWS

**Sir George McLaren Brown.**—Sir George McLaren Brown, European General Manager of the Canadian Pacific Railway, is retiring early in the New Year, after nearly 50 years' service with the company.

**West Australian Mineral Railway Scheme.**—A Bill to authorise the construction by a company of 19 miles of railway from Cue to the Big Bell mine at a cost of £60,000 is before the Western Australian Parliament.

**Dover St. Margarets and Martin Mill Light Railways.**—The Minister of Transport has further extended to October 11, 1937, the period limited for the completion of the whole of the railway authorised by the Dover St. Margarets and Martin Mill Light Railways Order, 1909.

**Collision near Lourdes.**—On September 23 an electrically hauled express from Lourdes to Avignon was run into in rear by a following local train, while at a standstill, attributed by the driver to a failure of current. The rear coaches are stated to have been telescoped, and fourteen persons are reported to have been killed.

**"Ulster Express" Broadcast.**—In the Northern Ireland B.B.C. programme on October 6, Mr. H. L. Fletcher will present a description in sound of the daily routine of the Ulster Express from impressions secured by the B.B.C. Mobile Recording Unit. The listeners will be taken, in imagination, from Euston station on the train journey to Heysham, on to the boat at Heysham, which lies alongside the train, and across the water to Belfast.

**Great Southern of Spain Railway.**—The Great Southern of Spain Railway Co. Ltd. announces that the control of the railway has been taken over by the local railway workers' council with the indulgence of the State representative, and that the British officers of the company have been obliged to leave Spanish territory owing to the conditions prevailing. Protests have been lodged by His Majesty's Chargé d'Affaires at Madrid with the Government authorities, and also by the company's representative there.

**Ottoman Railway Holding Bonds.**—At the first annual general meeting of Ottoman Holding Railway Company, held on September 22, Viscount St. Davids explained that the first half-yearly coupon, due December 1, 1935, of the bonds received from the Turkish Government for the sale of the railway, was paid in full. An agreement was concluded in May providing for the interest on the English and French holdings of bonds being paid as to 50 per cent. in cash and 50 per cent. in Turkish pounds. The company was considerably indebted to the French authorities for the consideration they gave to the holders of 1935 sterling bonds by facilitating the importation of more Turkish goods into France, the proceeds of which the British holders were to share with the French holders.

**L.M.S.R. Telephone Number.**—The telephone number of the L.M.S.R. headquarters and Euston station has been changed to EUSton 1234.

**L.M.S.R. Household Removals.**—A recent removal carried out by the L.M.S.R. from Lochgoilhead (Argyllshire) to Lincoln, involved a 50-mile road journey over difficult and mountainous country from the house to the railway station, whence the containers were taken by rail to Lincoln, where they duly arrived the next day.

**Surplus Swedish Steam Engines.**—Consequent upon the rapidly-extending electrification, the most modern of the steam locomotives released are being transferred to the Inland Railway and other routes in the north, and the older locomotives still in good condition have been sold to Norway, Poland, and the Baltic states which have standard-gauge lines.

**Hants & Dorset Motor Services Limited.**—An issue of new ordinary shares at 20s. in the proportion of one for each four held is to be made by Hants & Dorset Motor Services Limited, which will increase the ordinary capital from £320,000 to £400,000. The new issue involves a substantial bonus in view of the existing price of the shares. The company is associated with the Southern Railway.

**Completion of the Saigon-Hanoi Line.**—Messages from French Indo-China report the completion, after 40 years' sporadic efforts, of the North-South trunk line connecting Hanoi in Tongking with Saigon in Cochin China, 1,080 miles in length. This great construction work was dealt with at some length in the Overseas columns, on page 219 in our issue of August 7 last, and was illustrated with a map. The first through train is expected to be run on October 1, and the journey should be scheduled to take about 1½ days, once the line has settled down.

**Northern Counties (L.M.S.R.) Traffics.**—Traffics of the Northern Counties Committee (L.M.S.R.) for the week ended September 11, were £8,162, an increase of £1,102. For the 37 weeks of the current year, the gross earnings amounted to an increase of £25,509 on 1935.

**German Rail Debt to Poland.**—A Press message from Warsaw states that the £3,000,000 debt of the German State Railway to the Polish Government incurred by the transit of German trains from the Reich to Eastern Prussia is to be settled. Poland has agreed to accept payment of half of this amount in dynamos, turbines, and other electrical equipment, £1,000,000 will be used to meet Polish liabilities, and the balance paid by cash instalments.

**Scheme to Buy the Manifold Valley Railway.**—It is anticipated that the Cheadle Rural Council (Staffordshire) will be asked today (Friday) to launch a public appeal for funds with which to buy the disused Manifold Valley Light Railway track for conversion into a public footpath. In the meantime the L.M.S.R. has been persuaded not to begin dismantling the railway bridges. The matter was referred to in an editorial note in our issue of September 11.

**Railway Air Services Winter Programme.**—Railway Air Services Limited will continue to operate daily services during the winter months on its Royal Mail route between London, Liverpool, Belfast, and Glasgow, with connecting services between Liverpool and Manchester and calls at Birmingham and Stoke-on-Trent by request. Separate services will also be maintained between Glasgow and Belfast, and between Manchester, Liverpool, Blackpool, and the Isle of Man. These winter services came into operation September 21.

**Denny-Brown Stabiliser Tests on the "Isle of Sark."**—On Thursday of last week a large party of guests visited Southampton to witness a demonstration off the Isle of Wight

*Group on board the "Isle of Sark" at the demonstration of the Denny-Brown stabiliser. Left to right: Sir Maurice Denny, Mr. W. Wallace, Col. G. S. Szlumper, and Mr. R. P. Biddle*

of the Denny-Brown stabiliser fitted to the Southern Railway Company's cross-channel steamer *Isle of Sark*. Details of the device and tests are given in an article on page 489. Among those present at the demonstration were :—

Representing the Southern Railway : Col. G. S. Szlumper, Mr. R. P. Biddle, Mr. H. A. Short, Capt. Jeffries, Mr. M. G. J. McHaffie, Mr. W. A. Graham and Mr. C. Grasemann ; Sir M. Denny and Mr. J. W. Denny (Wm. Denny & Bros. Ltd.) ; Mr. W. Wallace and Mr. Finlay Ramage (Brown Bros. & Co. Ltd.) ; Mr. M. L. Evans (Frank Bustard Limited) ; Mr. Redshaw (Vickers-Armstrongs Limited) ; Mr. A. T. Wall (J. Samuel White & Co. Ltd.) ; Mr. F. C. V. Yarrow (Union-Castle Line) ; Mr. C. Sharp (Southampton and Isle of Wight Steam Packet Company) ; Mr. N. M. Dewar ; Eng.-Capt. Natal Arnaud ; Mr. T. Graham (Graham & Woolnough) ; Capt. W. G. Webb (Union Steam Ship Company of New Zealand) ; and Mr. Mackie (John I. Thornycroft & Co. Ltd.).

**Time Recovery on the L.N.E.R.**—A correspondent writes regarding a recent run on the Queen of Scots, L.N.E.R., that 25 minutes were recovered by the down train between Newcastle and Edinburgh, despite two permanent way slacks and the imposition of the conditional stop at Drem. Approximate times were as under :—

| | | Sched. p.m. | Actual p.m. | Min. late |
|---|---|---|---|---|
| Newcastle | dep. | 4.41 | 5.6 | 25 |
| Berwick | pass. | 5.56 | 6.9 | 13 |
| Marshall Meadows | ,, | 5.58 | 6.10 | 12 |
| Drem | dep. | 6.41 | 6.46 | 5 |
| Edinburgh | arr. | 7.5 | 7.5 | — |

The engine was Pacific No. 2582 *Sir Hugo* hauling the standard train of seven Pullmans, 281 tons tare.

**Road Accidents.**—The Ministry of Transport return for the week ended September 19 of persons killed or injured in road accidents is as follows. The figures in brackets are those for the corresponding period of last year :—

| | Killed, including deaths resulting from previous accidents | | Injured | |
|---|---|---|---|---|
| England .. | 108 | (126) | 4,375 | (4,166) |
| Wales .. .. | 5 | (9) | 199 | (185) |
| Scotland .. | 17 | (20) | 418 | (411) |
| | 130 | (155) | 4,992 | (4,762) |

The total fatalities for the previous week were 132, compared with 153 for the corresponding period of last year.

## British and Irish Traffic Returns

| GREAT BRITAIN | Totals for 38th Week | | | Totals to Date | | |
|---|---|---|---|---|---|---|
| | 1936 | 1935 | Inc. or Dec. | 1936 | 1935 | Inc. or Dec. |
| | £ | £ | £ | £ | £ | £ |
| L.M.S.R. (6,916¾ mls.) | | | | | | |
| Passenger-train traffic... | 533,000 | 494,000 | + 39,000 | 19,376,000 | 19,026,000 | + 350,000 |
| Merchandise, &c. ... | 500,000 | 476,000 | + 24,000 | 17,871,000 | 16,872,000 | + 999,000 |
| Coal and coke ... | 230,000 | 232,000 | − 2,000 | 9,012,000 | 8,585,000 | + 427,000 |
| Goods-train traffic ... | 730,000 | 708,000 | + 22,000 | 26,883,000 | 25,457,000 | + 1,426,000 |
| Total receipts ... ... | 1,263,000 | 1,202,000 | + 61,000 | 46,259,000 | 44,483,000 | + 1,776,000 |
| L.N.E.R. (6,332 mls.) | | | | | | |
| Passenger-train traffic... | 342,000 | 331,000 | + 11,000 | 12,598,000 | 12,393,000 | + 205,000 |
| Merchandise, &c. ... | 326,000 | 324,000 | + 2,000 | 12,118,000 | 11,650,000 | + 468,000 |
| Coal and coke ... | 223,000 | 212,000 | + 11,000 | 8,698,000 | 8,268,000 | + 430,000 |
| Goods-train traffic ... | 549,000 | 536,000 | + 13,000 | 20,816,000 | 19,918,000 | + 898,000 |
| Total receipts ... ... | 891,000 | 867,000 | + 24,000 | 33,414,000 | 32,311,000 | + 1,103,000 |
| G.W.R. (3,746½ mls.) | | | | | | |
| Passenger-train traffic... | 231,000 | 220,000 | + 11,000 | 8,196,000 | 8,106,000 | + 90,000 |
| Merchandise, &c. ... | 202,000 | 192,000 | + 10,000 | 7,135,000 | 6,839,000 | + 296,000 |
| Coal and coke ... | 98,000 | 93,000 | + 5,000 | 3,779,000 | 3,702,000 | + 77,000 |
| Goods-train traffic ... | 300,000 | 285,000 | + 15,000 | 10,914,000 | 10,541,000 | + 373,000 |
| Total receipts ... ... | 531,000 | 505,000 | + 26,000 | 19,110,000 | 18,647,000 | + 463,000 |
| S.R. (2,153 mls.) | | | | | | |
| Passenger-train traffic... | 337,000 | 322,000 | + 15,000 | 12,001,000 | 11,844,000 | + 157,000 |
| Merchandise, &c. ... | 69,500 | 65,500 | + 4,000 | 2,356,500 | 2,325,500 | + 31,000 |
| Coal and coke ... | 28,500 | 30,500 | − 2,000 | 1,164,500 | 1,108,500 | + 56,000 |
| Goods-train traffic ... | 98,000 | 96,000 | + 2,000 | 3,521,000 | 3,434,000 | + 87,000 |
| Total receipts ... ... | 435,000 | 418,000 | + 17,000 | 15,522,000 | 15,278,000 | + 244,000 |
| Liverpool Overhead ... (6½ mls.) | 1,168 | 1,128 | + 40 | 45,646 | 45,490 | + 156 |
| Mersey (4½ mls.) ... | 4,232 | 3,965 | + 267 | 152,794 | 151,397 | + 1,397 |
| *London Passenger Transport Board ... | 567,200 | 546,800 | + 20,400 | 6,659,300 | 6,456,200 | + 203,100 |
| IRELAND | | | | | | |
| Belfast & C.D. pass. (80 mls.) | 2,840 | 2,495 | + 345 | 103,429 | 102,180 | + 1,249 |
| ,, ,, goods | 402 | 477 | − 75 | 20,324 | 18,886 | + 1,438 |
| ,, ,, total | 3,242 | 2,972 | + 270 | 123,753 | 121,066 | + 2,687 |
| †Great Northern pass. (543 mls.) | 12,100 | 11,100 | + 1,000 | 415,950 | 399,750 | + 16,200 |
| ,, ,, goods | 9,550 | 10,800 | − 1,250 | 351,750 | 344,050 | + 7,700 |
| ,, ,, total | 21,650 | 21,900 | − 250 | 767,700 | 743,800 | + 23,900 |
| †Great Southern pass. (2,067 mls.) | 41,319 | 35,621 | + 5,698 | 1,382,652 | 1,350,085 | + 32,567 |
| ,, ,, goods | 44,418 | 43,752 | + 666 | 1,509,307 | 1,405,958 | + 103,349 |
| ,, total | 85,737 | 79,373 | + 6,364 | 2,891,959 | 2,756,043 | + 135,916 |

* 12th week. † 37th week.

## British and Irish Railways Stocks and Shares

| Stocks | Highest 1935 | Lowest 1935 | Prices Sept. 23, 1936 | Prices Rise/Fall |
|---|---|---|---|---|
| G.W.R. | | | | |
| Cons. Ord. ... | 55½ | 44½ | 57½ | +2½ |
| 5% Con. Prefce ... | 124 | 108 | 123 | +2½ |
| 5% Red.Pref.(1950) | 117 | 106¾ | 109½ | — |
| 4% Deb. ... ... | 118½ | 108 | 118 | +2½ |
| 4½% Deb. ... | 122 | 110 | 118½ | +1 |
| 4½% Deb. ... | 129½ | 118 | 128 | +3 |
| 5% Deb. ... ... | 140¼ | 130 | 136½ | — |
| 2½% Deb. ... | 82¼ | 68½ | 76 | — |
| 5% Rt. Charge ... | 137 | 128 | 135½ | +1 |
| 5% Cons. Guar. ... | 136¾ | 120½ | 133 | +2 |
| L.M.S.R. | | | | |
| Ord. ... ... | 25 5/16 | 16 | 29 | +1½ |
| 4% Prefce. (1923) | 58¼ | 43½ | 78 | +½ |
| 4% Prefce. ... | 87½ | 73½ | 88½ | +1 |
| 5% Red.Pref.(1955) | 107 | 97¾ | 106½ | — |
| 4% Deb. ... ... | 110¼ | 99½ | 110 | +2½ |
| 5% Red.Deb.(1952) | 119 11/16 | 111 5/16 | 116½ | — |
| 4% Guar. ... | 105⅝ | 95½ | 105½ | +2 |
| L.N.E.R. | | | | |
| 5% Pref. Ord. ... | 15⅞ | 8¼ | 13½ | — |
| Def. Ord. ... | 7 9/16 | 4¾ | 6½ | — |
| 4% First Prefce. | 74¾ | 48 | 77 | +2 |
| 4% Second Prefce. | 31¾ | 16¼ | 31 | +½ |
| 5% Red.Pref.(1955) | 92¼ | 71 | 96½ | — |
| 4% First Guar. ... | 103 11/16 | 93 | 103 | +2 |
| 4% Second Guar. | 98¾ | 82½ | 98 | +2 |
| 3% Deb. ... ... | 86 | 75 | 84 | +2 |
| 4% Deb. ... ... | 109¼ | 98½ | 108½ | +2½ |
| 5% Red.Deb.(1947) | 118¼ | 106½ | 110½* | −1 |
| 4½% Sinking Fund Red. Deb. | 112½ | 108 | 109 | — |
| SOUTHERN | | | | |
| Pref. Ord. ... | 87½ | 69¾ | 93 | +1 |
| Def. Ord. ... | 25 13/16 | 16¾ | 22½ | — |
| 5% Prefce. ... | 124 | 108¼ | 123 | +2½ |
| 5% Red.Pref.(1964) | 117¾ | 109½ | 116½ | — |
| 5% Guar. Prefce. | 136½ | 121½ | 132 | +½ |
| 5% Red.Guar.Pref. (1957) | 121¼ | 112½ | 117½ | — |
| 4% Deb. ... ... | 116¾ | 107 | 116 | +2 |
| 5% Deb. ... ... | 138 | 130¼ | 135½ | — |
| 4% Red. Deb. 1962–67 | 115 | 106½ | 112½ | +1 |
| BELFAST & C.D. | | | | |
| Ord. ... ... | 9 | 4 | 4½ | — |
| FORTH BRIDGE | | | | |
| 4% Deb. ... ... | 111¼ | 104¼ | 104½ | — |
| 4% Guar. ... | 109⅞ | 104 | 104½ | — |
| G. NORTHERN (IRELAND) | | | | |
| Ord. ... ... | 20 | 7 | 13¾ | −¾ |
| G. SOUTHERN (IRELAND) | | | | |
| Ord. ... ... | 57½ | 14½ | 58 | — |
| Prefce. ... ... | 50 | 25¼ | 62½ | +¾ |
| Guar. ... ... | 88¾ | 51¼ | 91 | +1 |
| Deb. ... ... | 86¼ | 70 | 94¾ | +¾ |
| L.P.T.B. | | | | |
| 4½% "A" ... | 130 | 119¾ | 126½ | +2 |
| 5% "A" ... | 139¾ | 130 | 134½ | — |
| 4½% "T.F.A." ... | 113¾ | 108 | 110 | +½ |
| 5% "B" ... | 131½ | 122¾ | 128½ | — |
| "C" ... ... | 109½ | 91 | 107 | — |
| MERSEY | | | | |
| Ord. ... ... | 23⅛ | 9¼ | 35 | +6 |
| 4% Perp. Deb. ... | 100½ | 93½ | 99 | — |
| 3% Perp. Deb. ... | 75½ | 67 | 75½ | +1 |
| 3% Perp. Prefce. | 62 | 47¼ | 66½ | +1 |

* ex dividend

# RAILWAY AND OTHER REPORTS

**Maidstone & District Motor Services Limited.**—The directors announce an interim dividend at the rate of 6½ per cent. per annum less tax, in respect of the six months ending September 30 on the cumulative preference shares, and an interim dividend of 5 per cent. actual, less tax, on the ordinary capital. This interim ordinary dividend is the same as a year ago, but on an increased capital, £1,000,000 against £700 000.

**Silverton Tramway Company.**—The report for the year to June 30 shows revenue of £151,646, against £133,952 for 1934-35. After deducting £83,892 for working expenses, fees, and taxes, against £75,085, and £6,823, against £6,934, for depreciation, there remains a profit of £60,931, against £51,933. Adding £10,153, against £8,718, brought in, makes a total of £71,083 available, compared with £60,651. The interim dividend takes £18,750, against £12,500, and the final dividend £31,250, against £25,000. Amounts transferred to special reserve for repayment of capital include £1,221 from interest earned and £11,279 from working profit. After other minor adjustments, the amount carried forward is £7,510, against £10,153. In the previous year a reduction of capital from £350,000 to £250,000 was made by repayment of 4s. per 14s. share from accumulated funds.

**Bolivia Railway.**—Net earnings for the half-year to June 30 are sufficient to pay 0·561 per cent. on the 5 per cent. mortgage and collateral trust income bonds (Series "A"). The balance required to enable interest of 1½ per cent. (6s. per £20 bond) to be paid is provided by the Antofagasta Railway. Interest will be paid on presentation of coupons on and after October 1, to J. Henry Schroder & Co., 145, Leadenhall Street, E.C.3.

**Sorocabana Railway.**—The sterling funds available for distribution on account of the October 1 coupon of the 4½ per cent. first debentures (now 5½ per cent. cumulative income first debentures) of the Sorocabana Railway Company amount to £15,658. The advisory committee appointed by the debenture holders in October, 1919, has therefore fixed the interest on the £1,489,040 first debentures outstanding at 1 per cent. Coupon No. 50 will be paid at this rate at the Bank of Scotland, 30, Bishopsgate, E.C.2.

**Brooklyn Manhattan Transit Company.**—A quarterly dividend of $1 a share is to be paid, comparing with the previous quarterly rate of 75 cents a share.

**Vulcan Foundry Limited.**—The directors recommend a dividend on the ordinary shares at the rate of 2½ per cent., not subject to tax, for the year ended June 30 (unchanged).

**A. Reyrolle & Co. Ltd.**—The directors have declared an interim dividend of 5 per cent., less tax, on the ordinary shares and 3½ per cent., less tax, on the preference shares, payable September 30.

**Carrier Engineering Co. Ltd.**—This company, which supplies air-conditioning installations, was made a public company last spring. The accounts for the year ended June 30 show net profits of £60,198. The directors recommend a dividend of 50 per cent. on the issued ordinary capital of £75,000, and propose to transfer £10,000 to reserve.

---

FURTHER L.M.S.R. ACCELERATIONS.—Additionally to the winter train service improvements announced in our issue of September 11, the 8 a.m. from Derby to St. Pancras is to start at 8.15 a.m., to omit the stops previously made at Kegworth and Loughborough (which will be provided by a connecting train at 7.55 a.m. from Derby to Leicester), and to reach St. Pancras at 10.55 a.m.—a total gain of 20 min. The 7.20 a.m. from Manchester to St. Pancras is also accelerated 5 min. south of Leicester, and arrives at 11.25 a.m. A considerable improvement of the evening service from Euston to Barrow-in-Furness is secured by transferring the through Barrow coaches from the 5.20 to the 5.10 p.m. Blackpool and Fylde Coast Express, with an acceleration of 54 min. to Barrow, 36 min. to Morecambe, and 33 min. to Lancaster. The Irish boat train from Heysham to Manchester and Leeds is to leave Heysham 10 min. later, but to have unchanged arrival times at Manchester and beyond. The 9 a.m. Thames-Forth express is accelerated to reach Edinburgh at 5.44 instead of 5.50 p.m., but the L.N.E.R. is responsible for this quickening, which cuts the Carlisle-Edinburgh time to 2 hr. 18 min.

WEEK-END "TONIC" CRUISES.—Two cruises which will enable passengers in the Bristol, Newport, and Cardiff areas to spend a week-end at the seaside and to make a sea cruise down the English Channel, round Lands End, and up the Bristol Channel, have been arranged for the end of season holiday makers, by the G.W.R. and Southern Railways and P. & A. Campbell Limited, for this and next week-end. Passengers will travel from these three towns by train to Ryde, via Southampton and Portsmouth, or to Brighton via London or Salisbury, by any of the ordinary services on September 24, 25, 26, and 27, or October 1, 2, 3, and 4. The sea cruises will start at 11.15 a.m. from Brighton pier and 2 p.m. from Ryde pier, on Monday, September 28, and Monday, October 5, in the saloon steamers *Waverley* and *Glen Gower*. The steamers will call at Ilfracombe from noon the following Tuesday until 4 p.m. and are due Cardiff at 6.45 p.m. and Bristol 8.40 p.m. The combined third-class rail and steamer fares range from 27s. 6d. to 35s.

FILM COMPANY BUYS LOCOMOTIVES.—London Film Productions Limited has bought from the L.N.E.R. for use in its Denham studios two 0-6-0 J.15 class tender engines and six undercarriages. These are for use in connection with the film "Knights without Armour," which is now being made at Denham, and in which Miss Marlene Dietrich is starring. The engines weigh 35 tons each and the tenders 15 tons each; each of the undercarriages weighs 6½ tons. The engines, together with the coaches, which will be built on the undercarriages, will be used on a 1,000-yd. length of track which has been built at the Denham studios in order to secure realistic shots of trains in motion. An L.N.E.R. driver and fitter will also be lent to the film company to assist in the locomotive shots. The conveyance of the locomotives and undercarriages from Denham and High Wycombe stations respectively set an interesting problem to the L.N.E.R. Road Cartage Department, which arranged to use two 30-ton Trauliers and a 45-ton trailer.

ANOTHER RECORD RUN ON THE G.W.R.—An exceptionally fast start-to-stop run from Reading to Paddington was accomplished on the night of September 23, when a special train conveying a dance band covered the 36·0 miles in 30½ minutes, 7½ minutes faster than the best start-to-stop schedule in force between these points. The train consisted of 4-6-0 locomotive No. 5000 *Launceston Castle* and a load of four coaches, weighing 122 tons behind the tender. Locomotive Inspector H. Townley, with Driver H. J. Dovey and Fireman G. C. Shute, all of Old Oak Common shed, were in charge on the footplate. The following are the times taken from the start at Reading:—

| Miles | | Min. | Sec. |
|---|---|---|---|
| 0·0 | Reading ... ... ... | 0 | 00 |
| 5·0 | Twyford ... ... ... | 5 | 50 |
| 11·8 | Maidenhead ... ... ... | 10 | 48 |
| 17·5 | Slough ... ... ... | 14 | 58 |
| 22·8 | West Drayton ... ... | 18 | 48 |
| 26·9 | Southall ... ... ... | 21 | 55 |
| 30·3 | Ealing Broadway ... ... | 24 | 20 |
| — | Ladbroke Grove box ... | 27 | 00* |
| 36·0 | Paddington ... ... ... | 30 | 30 |

* Brakes applied.

## Forthcoming Events

Sept. 26 (*Sat.*).—Permanent Way Institution (Manchester–Liverpool). Visit to Blackpool Corporation Gas Works.

Sept. 30 (*Wed.*).—Institution of Locomotive Engineers, at Inst. of Mechanical Engineers, Storey's Gate, London, S.W.1, 6 p.m. Presidential Address by Mr. W. A. Stanier.

Sept. 30–Oct. 10.—Exhibition of Inventions, at Central Hall, Tothill Street, London, S.W.1.

Oct. 1–31.—National Smoke Abatement Society Exhibition, at Science Museum, South Kensington, London, S.W.7.

# OFFICIAL NOTICES



TEST ROOM ASSISTANTS.—Railway Signal relay testers and adjusters wanted for Wembley factory. Consideration will be given to improvers having suitable bench experience. State age, qualifications, and wages required.—Box No. 22, c/o THE RAILWAY GAZETTE, 33, Tothill Street, S.W.1.

**OFFICIAL ADVERTISEMENTS.**

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is noon on Thursday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

# CONTRACTS AND TENDERS

Lobnitz & Co. Ltd., Renfrew, has received an order from the South African Railways and Harbours Administration for three salvage tugs. The vessels will have a gross tonnage of about 510, and will be propelled by two sets of triple-expansion engines developing 2,600 h.p.

### French Rolling Stock Contracts

Contracts for rolling stock, forming the final part of the French programme for 1936, have just been allotted by the railways to various manufacturing firms. The Nord has placed an order for ten Chapelon locomotives with the Fives-Lille Company. Contracts allotted by the Est include 85 steel coaches for suburban service, 25 to be constructed by the Etablissements Cail; 20 by the Compagnie Industrielle de Matériel de Transport; 20 by the Franco-Belge firm; and 20 by the Société Lorraine. Presumably these coaches are of the special light type described in detail in the August number of the *Revue Générale des Chemins de Fer*. They are intended to replace existing wooden coaches, and their lightness (among other advantages) obviates the necessity of ordering new heavy locomotives. The Est has also placed orders for 50 steel coaches for main line service, 17 to be built by the Société Lorraine, 11 by de Dietrich, 11 by Baume et Marpent, and 11 by the Ateliers de Construction du Nord de la France.

P.O.-Midi contracts comprise 29 refrigerator cars to be constructed by the Ateliers de Strasbourg; and 60 steel coaches, 20 to be built by the Société Industrielle Charentaise, 25 by Dyle et Bacalan, and 15 by the Etablissements Soulé. The P.L.M. has ordered 70 steel coaches, contracts for 20 going to the Usines Pétolat, 15 to the Etablissements Decauville, 15 to Baume et Marpent, and 20 to the Ateliers de Construction du Nord de la France. The State Railways have awarded a contract for 27 steel coaches of the lighter type to the Société Industrielle Charentaise.

The Argentine State Railways are enquiring for 550 covered wagons and 100 tank wagons. The Stores Superintendent is Senor Jorge Castro Madero, San José 180, Buenos Aires.

R. Y. Pickering & Co. Ltd. has received an order from the Bhavnagar State Railway Administration for 18 pairs of carriage and wagon spoked wheels and axles, for 2 ft. 6 in. gauge, to be supplied to the inspection of Messrs Robert White & Partners.

Reuters Trade Service learns from Stockholm that the Swedish State Railways invite tenders closing on September 30 for 56,000 tons of coal.

Leyland Motors Limited has received orders from the New South Wales Department of Road Transport for one Titan passenger vehicle and from the Thames Valley Traction Co. Ltd. for fourteen oil-engined Tiger passenger vehicles.

Hurst, Nelson & Co. Ltd. has received an order from the Junagad State Railway Administration for 12 pairs of metre-gauge carriage and wagon rolled steel disc wheels and axles to be supplied to the inspection of Messrs. Robert White & Partners.

The Bengal-Nagpur Railway Administration has placed the following orders:—

B. & S. Massey Limited, Spare parts for drop stamping plant.

British Thomson-Houston Co. Ltd., Slow speed alternator for Khargpur workshops.

Beyer, Peacock & Co. Ltd., Piston valve liners.

Steel Company of Scotland Limited, 254 Steel tyres.

Superheater Co. Ltd., Superheater headers.

Linley & Co., Copper firebox plates.

John Lang & Sons, Two screwcutting lathes.

The Indian Stores Department is calling for tenders (No. N-7201), receivable at the Engineering Section, Simla, by October 24, for the supply and delivery on a rate contract basis for the period February 1, 1937, to January 31, 1938, of ball-bearings of various types, and roller bearings.

## Blackpool Bus Station

Just over two years ago—on May 14, 1934, to be precise—a company called Blackpool Omnibus Stations Limited was incorporated to build and own a bus and coach station in the popular Lancashire resort which stands alone in the volume of pleasure traffic it is called to handle, largely as the result of "wakes weeks" and other occasions of mass holiday movement to the coast from the industrial districts of South Lancashire and West Yorkshire.

The new station, which is in Lytham Road, Blackpool, was opened on September 4, and is destined to become the principal road headquarters in the town. It is estimated that during the summer nearly 1,000 coaches a day will enter and leave it, representing approximately 25,000 passengers. The station is provided with a panelled waiting hall, a café, a booking office, and a parcels office, of which the colour scheme is green, white, and mauve. Some 20 buses and coaches are able to load or discharge passengers simultaneously, and there is space for parking 100 vehicles. On the loading platform and in the waiting rooms accommodation has been provided for several hundred passengers.

The capital of the companies owning the station is held by the railway-associated bus companies concerned in local Lancashire traffic, and also in the pooled Yorkshire-Blackpool coach services. Ribble Motor Services Limited owns 50 per cent., and the balance is divided between the East Yorkshire Motor Services Limited, the North Western Road Car Co. Ltd., the Yorkshire Traction Co. Ltd., the Yorkshire Woollen District Transport Co. Ltd., the Hebble Motor Services Limited, and the West Yorkshire Road Car Co. Ltd.

BRITISH STANDARD SPECIFICATIONS FOR PAINT INGREDIENTS.—The British Standards Institution has just issued revisions of specifications for red oxides of iron and red lead for paints. With the former (B.S.S. 272—1936) is included a revision of B.S.S. No. 305 for manufactured red oxides, together with a new specification (B.S.S. No. 694), which provides for blended red oxides of iron consisting of a mixture of the natural and manufactured oxides. The specification for manufactured oxides has been amplified to provide for two types (1 and 2). Type 1 covers Indian and Turkey reds, and Type 2 other manufactured oxides, such as that produced from bauxite. A revision of B.S.S. No. 217, red lead for paints, has now been extended so as to include non-setting red lead, originally the subject of a separate specification, B.S.S. No. 315. The latter specification has accordingly been superseded. Copies of these specifications may be obtained from the British Standards Institution, 28, Victoria Street, London, S.W.1. Price 2s. 2d. post free.

# Railway Share Market

Further good traffic figures induced more hopeful views as to dividend prospects of the junior stocks of the main line railways and prices have moved in favour of holders. The aggregate increase in the past week's traffics was £128,000 and it is hoped in some quarters that the average increase for the rest of the year may be around £100,000 a week.

Dividend prospects of the junior stocks will turn a good deal on the amounts spent on replacements, but there are growing hopes that the L.M.S. will be able to pay 1 per cent. on its ordinary stock for the current year and there was good demand for the latter this week at around 29. The 1923 preference was favoured on the favourable yield offered and the scope for satisfactory appreciation over a period. Great Western ordinary continued a prominent feature, the £26,000 traffic increase for the past week being regarded as satisfactory. There was, however, some selling of the stock with a view to exchanging into L.M.S. ordinary. The latter at 29 would yield less than 3½ per cent. on a 1 per cent. dividend basis, while the yield on Great Western at 58 would be over 5 per cent. on its present 3 per cent. dividend, but based on earnings on these stocks, the earnings yields probably differ very little. L.N.E.R. stocks were relatively out of favour, there having been hopes that a larger traffic increase than £24,000 would have been shown. The increase in the railway's takings for the year to date is, however, as much as £1,103,000 and there are still hopes of a possible fractional dividend on the second preference stock for the current year. The latter has remained steady at 31. Southern preferred and deferred were both more active and at 93 and 23 respectively are higher than at the beginning of the week. Debenture stocks of the home railways were firm in sympathy with the general trend in British Government stocks, and gains ranging up to a point were established. London Transport "C" stock was firm at 107. There was some recovery in French railway sterling bonds.

Argentine railway stocks made further improvement and were more animated than for a long time past. Buying has been accelerated by the hopes attaching to a new trade agreement with Argentina and there are now apparently more investors prepared to take the long view in the hope of good appreciation in price as time proceeds. It is realised that the forthcoming annual reports of the Argentine railway companies will cover a period when traffics have been very disappointing. Most of the ordinary stocks and debentures of the leading Argentine railways have participated in the upward movement. B.A. Great Southern ordinary was particularly good with a rise to 18½. Elsewhere Leopoldina was again better at 6¼ and Nitrate Rails slightly higher. Canadian Pacific were steadier.

## Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

| | Railways | Miles open 1935-36 | Week Ending | Traffics for Week: Total this year | Traffics for Week: Inc. or Dec. compared with 1935 | No. of Weeks | Aggregate Traffics to Date: Totals: This Year | Aggregate Traffics to Date: Totals: Last Year | Aggregate Traffics to Date: Increase or Decrease | Shares or Stock | Prices: Highest 1935 | Prices: Lowest 1935 | Prices: Sept. 23, 1936 | Prices: Yield (See Note) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | £ | £ | | £ | £ | £ | | | | | |
| South & Central America. | Antofagasta (Chili) & Bolivia | 834 | 20.9.36 | 12,000 | + 2,930 | 38 | 510,890 | 462,930 | + 47,960 | Ord. Stk. | 23 | 14 15/16 | 18 | Nil |
| | Argentine North Eastern .. | 753 | 19.9.36 | 10,312 | + 1,299 | 12 | 110,351 | 100,595 | + 9,756 | ,, | 7 | 4 | 4 | Nil |
| | Argentine Transandine .. | — | — | — | — | — | — | — | — | A. Deb. | 49 1/2 | 30 | 47 1/2 | 8 7/16 |
| | Bolivar .. .. .. | 174 | Aug., 1936 | 4,900 | — 700 | 35 | 52,500 | 50,300 | + 2,206 | 6 p.c. Deb. | 13 | 5 | 10 | Nil |
| | Brazil .. .. .. | — | — | — | — | — | — | — | — | Bonds. | 14 | 11 | 15 1/2 | 3 1/4 |
| | Buenos Ayres & Pacific .. | 2,806 | 12.9.36 | 76,118 | + 5,008 | 11 | 790,281 | 790,315 | — 34 | Ord. Stk. | 101 2 | 47 8 | 8 | Nil |
| | Buenos Ayres Central .. | 190 | 5.9.36 | $153,200 | + $16,700 | 10 | $1,280,400 | $1,239,900 | + $40,500 | Mt. Deb. | 21 | 10 | 12 1/2 | Nil |
| | Buenos Ayres Gt. Southern | 5,084 | 12.9.36 | 112,176 | — 20,355 | 11 | 1,171,902 | 1,298,172 | — 126,270 | Ord. Stk. | 27 | 13 1/2 | 18 1/2 | Nil |
| | Buenos Ayres Western .. | 1,930 | 19.9.36 | 39,235 | + 832 | 12 | 459,937 | 479,787 | — 19,850 | ,, | 24 | 10 | 15 | Nil |
| | Central Argentine .. .. | 3,700 | 19.9.36 | 153,565 | + 25,820 | 12 | 1,592,530 | 1,424,517 | + 168,013 | ,, | 17 7/8 | 7 | 14 | Nil |
| | Do. .. .. .. | — | — | — | — | — | — | — | — | Dfd. | 9 | 3 1/4 | 7 | Nil |
| | Cent. Uruguay of M. Video | 273 | 12.9.36 | 11,594 | + 4,339 | 11 | 112,297 | 91,838 | + 20,459 | Ord. Stk. | 8 1/2 | 3 | 4 | Nil |
| | Do. Eastern Extn. | 311 | 12.9.36 | 1,935 | + 457 | 11 | 18,515 | 15,264 | + 3,251 | — | — | — | — | — |
| | Do. Northern Extn. | 185 | 12.9.36 | 1,390 | + 339 | 11 | 16,013 | 12,017 | + 3,996 | — | — | — | — | — |
| | Do. Western Extn... | 211 | 12.9.36 | 968 | + 126 | 11 | 9,965 | 7,924 | + 2,041 | — | — | — | — | — |
| | Cordoba Central .. .. | 1,218 | 19.9.36 | 30,350 | + 3,460 | 12 | 427,260 | 392,990 | + 34,270 | Ord. Inc. | 4 | 1 | 1 1/2 | Nil |
| | Costa Rica .. .. .. | 188 | July, 1936 | 21,438 | + 7,708 | 4 | 21,438 | 13,730 | + 7,708 | Stk. | 35 | 30 | 33 1/2 | 6 |
| | Dorada .. .. .. | 70 | July, 1936 | 16,000 | + 2,400 | 31 | 95,300 | 80,400 | + 14,900 | 1 Mt. Db. | 103 8 | 102 1/2 | 104 1/2 | 5 3/4 |
| | Entre Rios .. .. .. | 810 | 19.9.36 | 14,147 | + 2,174 | 12 | 146,279 | 146,876 | — 597 | Ord. Stk. | 15 | 6 1/2 | 8 | Nil |
| | Great Western of Brazil .. | 1,082 | 19.9.36 | 6,600 | + 1,100 | 38 | 276,200 | 273,500 | + 2,700 | Ord. Sh. | 1/2 | 5/16 | 1/2 | Nil |
| | International of Cl. Amer. | 794 | July, 1936 | $310,697 | — $17,787 | 31 | $3,307,311 | $2,960,670 | + $346,641 | — | — | — | — | — |
| | Interoceanic of Mexico .. | — | — | — | — | — | — | — | — | 1st Pref. | 1/2 | 5/32 | 1/2 | Nil |
| | La Guaira & Caracas .. | 22¾ | Aug., 1936 | 4,945 | + 1,090 | 35 | 37,195 | 31,425 | + 5,770 | Stk. | 8 1/2 | 8 | 5 1/2 | Nil |
| | Leopoldina .. .. .. | 1,918 | 12.9.36 | 20,113 | — 686 | 37 | $85,727 | 828,018 | + 57,709 | Ord. Stk. | 8 1/2 | 2 1/2 | 6 | Nil |
| | Mexican .. .. .. | 483 | 14.9.36 | $252,900 | — $50,500 | 11 | $2,704,900 | $2,741,200 | — $36,300 | ,, | 1 1/2 | 1/4 | 1/2 | Nil |
| | Midland of Uruguay .. | 319 | Aug., 1936 | 7,887 | + 2,378 | 9 | 15,621 | 11,011 | + 4,610 | ,, | 1 1/2 | 1 1/2 | 1/2 | Nil |
| | Nitrate .. .. .. | 397 | 15.9.36 | 3,724 | — 1,112 | 37 | 89,845 | 105,970 | — 16,125 | Ord. Sh. | 64/- | 42/- | 2 5/8 | Nil |
| | Paraguay Central .. .. | 274 | 12.9.36 | $2,826,000 | + $3,000 | 11 | $28,288,000 | $24,279,000 | + $4,009,000 | Pr. Li. Stk. | 80 1/2 | 60 | 72 1/2 | 8 1/4 |
| | Peruvian Corporation .. | 1,059 | Aug., 1936 | 87,240 | + 12,556 | 9 | 171,561 | 148,497 | + 23,064 | Pref. | 105 8 | 67 16 | 101 2 | Nil |
| | Salvador .. .. .. | 100 | 12.9.36 | $8,152 | — $1,773 | 11 | $116,126 | $129,411 | — $13,285 | Pr. Li.Db. | 65 | 61 | 15 | Nil |
| | San Paulo .. .. .. | 153½ | 6.9.36 | 32,083 | + 11,109 | 36 | 1,077,486 | 858,068 | + 219,418 | Ord. Stk. | 80 | 35 | 69 | 3 5/8 |
| | Taltal .. .. .. | 164 | Aug., 1936 | 3,625 | + 1,205 | 9 | 6,150 | 4,945 | + 1,205 | Ord. Sh. | 11 1/16 | 1 1/8 | 7/8 | 12 5/16 |
| | United of Havana .. .. | 1,353 | 19.9.36 | 14,071 | + 452 | 12 | 186,188 | 209,055 | — 22,867 | Ord. Stk. | 3 1/16 | 1 | 2 1/2 | Nil |
| | Uruguay Northern .. .. | 73 | Aug., 1936 | 778 | + 213 | 9 | 1,644 | 1,199 | + 455 | Deb. Stk. | 4 1/2 | 2 15/16 | 4 1/2 | Nil |
| Canada. | Canadian National .. .. | 23,615 | 14.9.36 | 829,032 | + 84,561 | 37 | 24,859,180 | 23,215,756 | + 1,643,424 | — | — | — | — | — |
| | Canadian Northern .. | — | — | — | — | — | — | — | — 4 p.c. | Perp. Dbs. | 78 8 | 52 1/2 | 67 1/2 | 5 15/16 |
| | Grand Trunk .. .. | — | — | — | — | — | — | — | — | 4 p.c. Gar. | 103 8 | 93 | 101 1/2 | 3 15/16 |
| | Canadian Pacific .. .. | 17,237 | 14.9.36 | 656,200 | + 66,400 | 37 | 18,401,200 | 16,800,800 | + 1,600,400 | Ord. Stk. | 14 1/16 | 8 1/4 | 12 1/2 | Nil |
| India.† | Assam Bengal .. .. | 1,329 | 31.8.36 | 33,900 | + 1,832 | 21 | 504,816 | 487,101 | + 17,715 | Ord. Stk. | 92 1/8 | 77 1/2 | 85 1/2 | 3 1/2 |
| | Barsi Light .. .. .. | 202 | 31.8.36 | 3,247 | + 225 | 21 | 53,760 | 62,625 | — 8,865 | Ord. Sh. | 105 | 77 1/2 | 69 1/2 § | 7 5/16 |
| | Bengal & North Western .. | 2,112 | 31.8.36 | 68,570 | + 14,220 | 21 | 1,144,318 | 1,061,489 | + 82,829 | Ord. Stk. | 301 1/2 | 291 | 310 | 5 5/16 |
| | Bengal Dooars & Extension | 161 | 31.8.36 | 4,122 | — 951 | 21 | 52,053 | 52,730 | — 677 | ,, | 127 1/2 | 122 | 125 1/2 | 5 9/16 |
| | Bengal-Nagpur .. .. | 3,268 | 31.8.36 | 153,700 | — 28,312 | 21 | 2,537,160 | 2,673,565 | — 136,405 | ,, | 105 | 100 5/16 | 102 1/2 | 3 7/8 |
| | Bombay, Baroda & Cl. India | 3,072 | 10.9.36 | 192,900 | + 21,900 | 23 | 3,665,700 | 3,408,750 | + 356,950 | ,, | 115 1/4 | 110 | 112 1/2 | 5 11/32 |
| | Madras & Southern Mahratta | 3,229 | 31.8.36 | 138,900 | + 1,627 | 21 | 2,365,738 | 2,303,044 | + 62,694 | ,, | 128 1/2 | 113 7/8 | 112 1/2 | 8 |
| | Rohilkund & Kumaon .. | 546 | 31.8.36 | 11,165 | + 1,164 | 21 | 224,850 | 202,676 | + 22,174 | ,, | 294 | 262 | 308 1/2 | 5 5/16 |
| | South Indian .. .. | 2,532 | 31.8.36 | 123,071 | + 2,594 | 21 | 1,696,006 | 1,714,952 | — 18,946 | ,, | 119 3/4 | 104 1/4 | 103 1/2 | 5 9/16 |
| Various. | Beira-Umtali .. .. | 204 | July, 1936 | 67,976 | + 3,936 | 44 | 645,318 | 640,305 | + 5,013 | — | — | — | — | — |
| | Bilbao River & Cantabrian | 15 | July, 1936 | 1,677 | + 547 | 31 | 10,202 | 11,035 | — 833 | — | — | — | — | — |
| | Egyptian Delta .. .. | 620 | 31.8.36 | 6,363 | — 176 | 21 | 88,499 | 82,745 | + 5,724 | Prf. Sh. | 2 | 1 8 | 1 1/4 | 5 11/16 |
| | Great Southern of Spain .. | 104 | 29.8.36 | 568 | — 2,514 | 35 | 33,629 | 62,623 | — 28,994 | Inc. Deb. | 3 1/2 | 2 | 3 1/2 | Nil |
| | Kenya & Uganda .. .. | 1,625 | Aug., 1936 | 166,963 | — 1,758 | 34 | 1,781,864 | 1,641,345 | + 140,519 | — | — | — | — | — |
| | Manila .. .. .. | — | — | — | — | — | — | — | — | B. Deb. | 48 | 36 | 43 | 8 1/8 |
| | Mashonaland .. .. | 913 | July, 1936 | 103,104 | — 8,610 | 44 | 1,019,185 | 1,159,674 | — 140,489 | 1 Mg. Db. | 104 1/4 | 100 | 103 1/2 | 4 15/16 |
| | Midland of W. Australia .. | 277 | July, 1936 | 10,214 | — 794 | 4 | 10,214 | 11,008 | — 794 | Inc. Deb. | 98 3/4 | 93 | 95 1/2 | 4 5/16 |
| | Nigerian .. .. .. | 1,905 | 15.8.36 | 27,910 | + 10,630 | 20 | 565,554 | 472,374 | + 93,180 | — | — | — | — | — |
| | Rhodesia .. .. .. | 1,538 | July, 1936 | 199,545 | + 401 | 44 | 1,868,330 | 1,923,854 | — 55,524 | 4 p.c. Db. | 105 1/2 | 101 | 106 | 3 3/4 |
| | South African .. .. | 13,263 | 29.8.36 | 623,860 | + 57,448 | 22 | 12,871,104 | 11,783,877 | + 1,087,227 | — | — | — | — | — |
| | Victoria .. .. .. | 4,728 | June, 1936 | 703,693 | + 16,855 | 52 | 9,689,925 | 9,421,092 | + 268,833 | — | — | — | — | — |
| | Zafra & Huelva .. .. | 112 | May, 1936 | 8,821 | — 2,027 | 22 | 48,574 | 55,398 | — 6,823 | — | — | — | — | — |

NOTE.—Yields are based on the approximate current prices and are within a fraction of 1/16.

† Receipts are calculated @ 1s. 6d. to the rupee. § ex dividend. Salvador and Paraguay Central receipts are in currency.

The variation in Sterling value of the Argentine paper peso has lately been so great that the method of converting the Sterling weekly receipts at the par rate of exchange has proved misleading, the amount being overestimated. The statements from July 1 onwards are based on the current rates of exchange and not on the par value.